THE BUILDER

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CONTENTS.

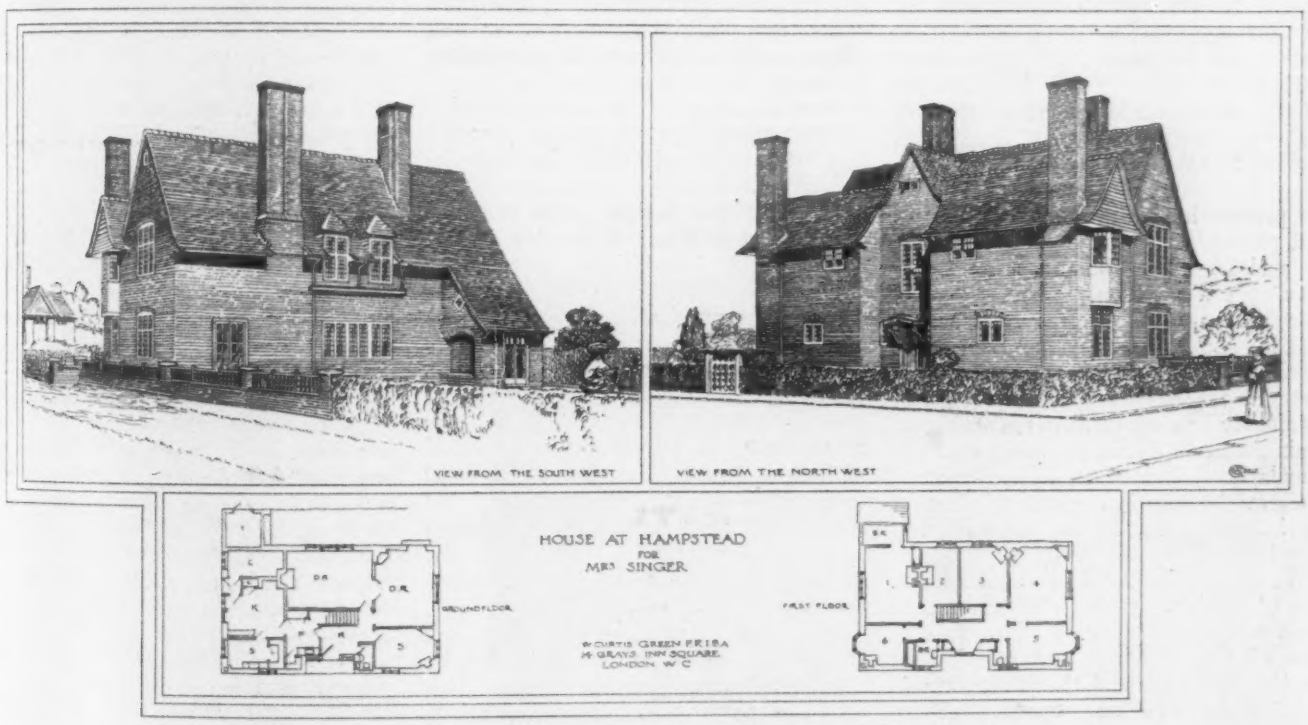
	PAGE
Skeleton-Frame Buildings	141
Notes	142
The National Competition, 1911 (with Illustrations)	143
The Royal Institute of British Architects	144
The Architectural Association Second Spring Visit	147
The Royal Academy Lectures on Architecture	147
Books (with Illustration)	149
Carpenters' Hall Lectures	150
Alexander Thomson Travelling Studentship	150
General News	151
Competition News	151
Correspondence	151
Intercommunication Column	151
Editorial Summary	152
Meetings	152
Engineering Societies	152
Notes to Illustrations	152
Fifty Years Ago	152
Monthly Review of Construction:—	
New Buildings in Central Paris (with Illustrations)	153
Automatic Temperature Regulation	154
Heating, etc., McGill University, Montreal	155
Testing of Materials of Construction	156
Notes (with Illustrations)	156
The Building Trade:—	
The National Federation of Building Trades Employers of Great Britain and Ireland	157
Building Plans v. Building Prospects	158
Clay Excavating Plant, Warnham	158
Bristol Master Builders' Association	158
Leicester Building Trades Employers' Association	159
General Building News	159
Applications under London Building Acts, 1894 to 1909	159
London Councils	160
Foreign and Colonial	160
The Surveyors' Institution	161
Smoke Abatement	161
Trophy for "The Buffs" (with Illustration)	162
The London County Council	162
List of Competitions, Contracts, etc., Open	164
Law Report	165
Patents	166
Some Recent Sales	166
Prices Current	166
Tenders	167

Illustrations.

R.I.B.A. Tite Competition:—

Prize Design, by Mr. Louis de Soissons.

Certificate of Hon. Mention. Design by Mr. Thomas H. Chalkley.



House at Hampstead. Mr. W. Curtis Green, F.R.I.B.A., Architect.

The house illustrated above was built by Messrs. Moss & Sons. The walls are faced with hand-made sand-faced bricks, and the roof is covered with hand-made sand-faced tiles. All the window-frames are oak, having iron casements and lead glazing by Messrs. Wainwright & Waring. The internal doors and staircase are in oak.

SKELETON-FRAME BUILDINGS.

AFTER waiting with unexampled resignation for a long series of years, London architects and builders were finally rewarded in 1909 by an enactment releasing them from the bonds established long ago and tied anew by the London Building Act of 1894. We refer to the restrictions which virtually prohibited the employment of steel to full advantage in its legitimate capacity of a trustworthy building material. By the regulations concerning the construction of skeleton-frame buildings made by the London County Council under Part IV. of their General Powers Act, 1909, the useful properties of steel have at last been officially recognised.

In this article we do not propose to discuss the wide subject of skeleton construction, but rather to consider the conditions attending the application of steel to the branch of architectural practice indicated.

Sect. 22 of the Act provides that where any work in the nature of a skeleton frame is to be executed, for a new or an existing building, the customary notice to the District Surveyor under sect. 145 of the London Building Act, 1894, shall be accompanied (*a*), in the case of a new building, by detail drawings showing the proposed construction by calculations setting forth the loads and stresses contemplated, and by particulars of the materials to be used, and (*b*), in the case of an alteration or addition or other work, by such drawings, calculations, and particulars as the District Surveyor may reasonably require.

The section mentioned does not specify precisely what drawings, calculations, and particulars should be submitted, and relegates to the District Surveyor the duty of deciding this important matter, as will be seen by the words:—"And should such plans, sections, calculations, or particulars be, in the opinion of the District Surveyor, not in sufficient detail, the person depositing the same shall furnish the District Surveyor with such further plans, sections, calculations, or particulars as he may reasonably require." Therefore, according to the

terms of the section, the architect is left entirely at the mercy of the particular District Surveyor with whom he may have to deal in connexion with a new skeleton-frame building or any work in the nature of a skeleton frame executed in an existing building.

District Surveyors, in common with other human beings, are not produced like steel ingots in moulds of standard dimensions and from material of uniform composition and properties, and each of them regards things from his own standpoint, his judgment being affected largely by individuality and by the effects of professional training. Consequently sect. 22 does not give architects any assurance of uniformity in the reasonable requirements that may be made by the District Surveyors of London.

We cast no reflection on the competency or fairness of District Surveyors—a body of men who have in the past discharged, and will doubtless continue to discharge, onerous and by no means easy duties with general satisfaction to all concerned; but we cannot disguise the fact that the section to which reference is made distinctly favours the establishment of requirements varying from district to district and perchance from day to day.

That our views of the question are strictly reasonable is proved by the fact that the District Surveyors' Association (Incorporated) have recently issued a pamphlet formulating a uniform basis for the preparation of drawings, calculations, and particulars to be submitted relative to skeleton-frame buildings or work. This scheme has been prepared with the co-operation of the Royal Institute of British Architects and the Surveyors' Institution, and its advantages are set forth in the following terms:—"It will manifestly be convenient to the architect, engineer, and District Surveyor that the calculations shall be submitted upon a uniform basis, thus greatly reducing the labour of making and checking the calculations."

We are fully in accord with this expression of opinion, and can give two recent cases which confirm its justice. One is that of the drawings and calculations for the steel frame of the Regent-street Polytechnic, the first building of its kind constructed under the provisions of the new Act. When the notice was served on the District Surveyor neither that official nor the architect, nor the structural engineers, had any clearly-defined notion as to the scope or exact nature of the information required to comply with the true meaning of sect. 22, and the result was an elaborate series of drawings and calculations involving considerably more trouble and expense than were really necessary, the object having been to make absolutely sure that the proposal should be approved without the risk of delays. The other case is one quite unconnected with the new Act, but nevertheless illustrating just as well the need for uniformity of particulars. The writer was retained by a municipal council outside the London County boundaries to consider the drawings and calculations for a skeleton building. The drawings submitted were inconvenient and inadequate, not permitting the ready identification of the structural members denoted in the calculations, and not showing essential details. The calculations had been performed in a needlessly complicated and roundabout manner by the aid of laborious methods. Consequently various supplementary drawings had to be furnished, and the work entailed on both sides was fully four times that which would have been involved if the drawings and calculations had been got out more suitably. It will readily be understood that similar trouble caused to a District Surveyor, whose fees are limited by statute, would result in serious loss of valuable time.

The schedule of recommendations published by the District Surveyors' Association is intended to obviate difficulties to all concerned, and we are sure will be widely appreciated.

Part I. suggests methods of denoting piers, columns, girders, beams, floors, other structural elements, and parts of a building by letters and numbers, so that each of them can be readily identified; Part. II. is a schedule of notation for employment in all formulæ and calculations; and Part III. specifies the scope of the drawings required. These three parts are judiciously drawn, in our opinion, and are of perfectly satisfactory character.

Part IV. aims at the standardisation of calculations and the manner in which the data and calculated results are to be submitted. For the convenience of architects the Association have prepared standard tabulated forms for pillars, beams, and foundations respectively, making clear the exact nature of the particulars required. The necessary wording to introduce or accompany the required data and calculated results is printed in or at the top of the various columns in each form, and will undoubtedly save the user a good deal of time and make work delightfully easy in the office of the District Surveyor. We may add that the three kinds of sheets can be purchased in bulk from the printers to the Association or obtained through any stationer.

No sheet is provided for roofs, the design of which is to be shown by drawings, stress diagrams, and other specified particulars. Additional sheets are required for all special members to which the standard forms are not applicable, as, for instance, eccentrically-loaded beams, gusset plates, brackets, bracing, and connexions generally.

Part V. states formulæ suggested for calculations, and, although the equations do not cover all cases arising in practice, they will suffice for a large proportion of the work to be done.

The pamphlet concludes with a series of tables on the weight of materials, working stresses on steel pillars, safe loads on beams and pillars, permissible shear on rivets and bolts, and the bearing value of steel plates.

The pamphlet is commendably brief, while at the same time quite explicate in every respect. Having already stated our opinion as to the value of the recommendations, we need only say in conclusion that the hearty thanks of the profession are due to the District Surveyors' Association for their effort to make easy the application of the new regulations covering the design and construction of skeleton-frame buildings. The reasonable manner in which the question has been dealt with suggests the confident hope that the path of designers in reinforced concrete will be made equally smooth after the draft regulations of the London County Council have been finally amended and approved.

NOTES.

The Over-Elaboration of Plans.

THE need for a precise definition of terms before a discussion can be fruitful is suggested by the debate at the Architectural Association on the motion "That Modern House Planning Tends to Over-Elaboration." By the aid of Murray's Dictionary the meeting appears to have arrived at the conclusion that to elaborate means "to produce or develop by application and labour; to work out in detail; to give finish or completeness." From this we may perhaps conclude that the precise charge brought against modern house planning was that this process is carried too far, with the result that modern house plans are laboured or over-elaborated in the same way that a picture may be said to be over-painted. Over-elaboration in this sense is a fault to which all artists are prone—it is always difficult to know just when and where to stop; but it would not have occurred to us that the designers of houses were worse sinners than others. We should be inclined to regard it more as a matter of individual temperament or method of design. As Mr. Mackenzie says in the interesting paper with which he opened the discussion, there is no doubt whatever that modern house planning yearly becomes more elaborate. Here he seems to use the word as it is generally understood, implying that it becomes more complex, more full of detail. But when he goes on to say that "an elaborate house is not the same thing as an elaborately-planned house; the one conveys the idea of complication, the other simplicity in its considered result," he appears to attach a somewhat arbitrary and even paradoxical meaning to the adverbial use of the word which, though justifiable for the purposes of his argument, seems rather unfortunate, as possibly leading to confusion of thought. We doubt whether the term "elaborately planned" would convey the idea of simplicity to the ordinary mind; whether elaboration would generally be considered to include elimination; or whether the process whereby a well-studied plan attains this "simplicity in its considered result" would usually be regarded as a process of elaboration. The Chairman took a broad view of the matter by suggesting that "all architects must view this question of elaboration in house design as being a question of taking infinite pains"; but he does not appear to have ventured an opinion as to whether house designers take too much or too little. Neither will we.

The R.I.B.A. Meeting-Room.

APART from the practical reasons advanced by Mr. Alan Munby, in the *Journal* of the Institute, in favour of a rearrangement of the seats in the meeting-

room, there is another point of view which might be considered to support his proposal. It is much to be desired that every member of the Institute should feel at home at the meetings and be encouraged to take part in the discussion. At present the occupants of the back rows—or, indeed, of any but the few front ones—are in a position which rather tends to discourage them. Under the best of conditions it probably requires some little courage for any but the most self-confident of the younger members to intervene in debate. To be obliged to do so from a position which makes him feel more or less of an "outsider" is no help to him. He may feel that his intervention is almost an intrusion. The meetings being held in a gallery not originally designed for meetings, its shape is naturally not an ideal one for this purpose; but there seems no reason why its inherent defects should be aggravated by the arrangement of the seats. In so long and narrow a room, seated as at present, the inevitable tendency is to confine the discussion to the occupants of the few front rows of seats, and for all the rest of the members to feel somewhat "out of it." We believe that Mr. Munby has only put into definite shape the feeling of a large number of the members, and we hope the Council will see their way to give his suggestion a trial.

Dry Rot in Church Buildings. At the annual meeting of the Chester Diocesan Church Building Society the Bishop of Chester is reported to have called attention to the great waste of money caused by the development of dry rot in newly-built churches and vicarages, some of which had been erected under the direction of well-known architects. Such waste, of course, is to be regretted, but we should like to have a little more evidence, especially as to the extent to which the dry rot prevails, before we are willing to let the implied criticism of architects pass; and as to the statement attributed to Archdeacon Barber, *i.e.*, that he was afraid that the church building of to-day was not done with the same solidity as in former times, that is only a matter of opinion which the Archdeacon would find it very difficult to substantiate, especially bearing in mind some recent bad cases of failure in some of our old cathedral churches. Canon Gore thought that defective church buildings were chiefly due to inefficient clerks of works—a statement to which clerks of works may have something to say. All we need remark is that as a body the clerks of works of this country are a most capable class, and that efficient clerks can generally be obtained when an adequate salary is offered.

The R.A. Lectures on Sculpture. Professor W. R. Colton, A.R.A., in his third Royal Academy lecture on "Ideals and Ethics of Sculpture," made some interesting remarks in regard to the works of sculpture which, in his opinion, had influenced modern sculpture more than any other works, and he showed some examples of foreign work which had had considerable influence upon sculpture, and referred particularly to the influence of Michelangelo and Donatello upon sculpture work even to the present day. He also considered what was necessary in this country to produce a great school of sculpture, contending that the soil and the cultivators were ready, but that what was lacking was the influence of faith, and he justified this belief by saying that with Michelangelo and Donatello there was the same great faith in life.

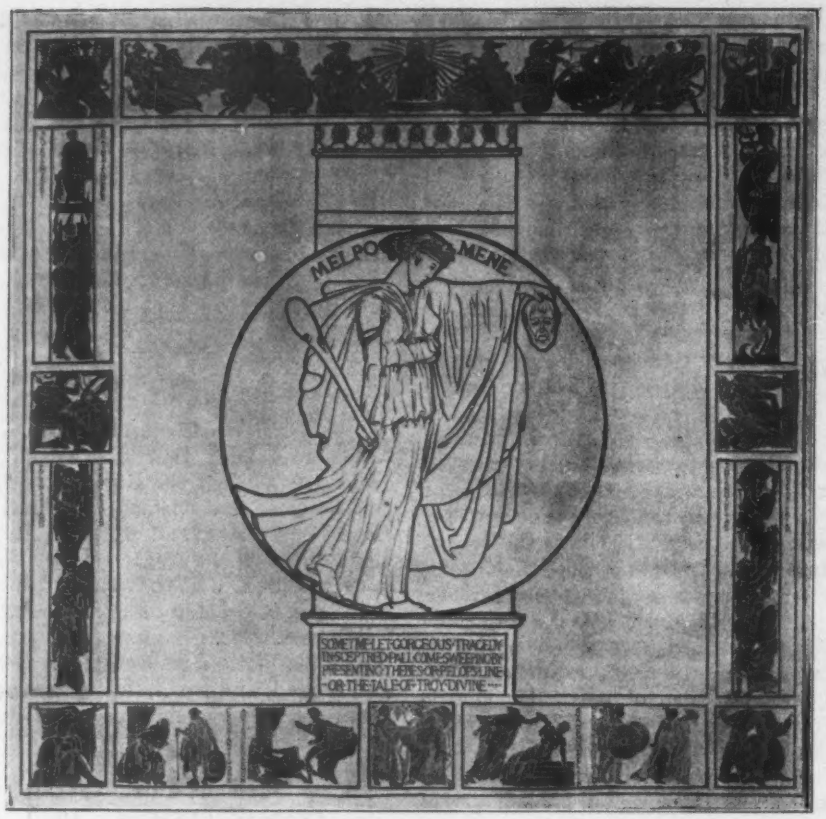
Hints to Students. In the last lecture of the course Professor Colton gave some excellent hints to students, dealing with the limitations which all sculptors had to recognise in their work, such as the impossibility or undesirability of treating some subjects in sculpture, and the importance of studying beautiful objects rather than ugly ones for the purpose of cultivating the artistic taste. He gave some admirable advice as to the necessity of letting sketches be sketches of intention, free from the idea of particular models and prepared under the influence of a sculptor's own ideas and the spiritual side of his nature. He recommended them to put the original sketch aside, but to refer to it now and then as they proceeded with the commission to see how far the first intention was being adhered to. Every great sculptor had two faculties, *i.e.*, the skilful manipulation faculty and the poetical faculty, and if an artist did not possess these two he would fail as an artist in one direction or another. It is interesting to note that in the opinion of the lecturer much sculpture is ruined in this country because the original idea of the sculptor is not carried out, with the result that many conceptions are weakened and spoilt. Professor Colton showed some beautiful lantern slides, and gave a review of some modern work, concluding with an interesting account of the work of St. Gaudens.

The Institute Gold Medallist. It was announced at the meeting of the Royal Institute of British Architects on Monday that the Council have decided to present the Royal Gold Medal this year to an English architect, Mr. Basil Champneys, and we are quite sure that this will be regarded as a very good selection, and that there will be no difference of opinion on the suitability of the choice. Mr. Champneys is an architect of distinction, whose work is pleasing and refined, and his claims to recognition could not very well have been overlooked.

THE NATIONAL COMPETITION, 1911.

From the designs sent in for the National Competition we have chosen for illustration examples of those awarded the Gold, Silver, and Bronze Medals. The number of works submitted was 13,153, and from these the judges selected ten for Gold Medals,

Modelled and Carved Design for Fireplace. By Mr. William H. Wright (Nottingham).
(National Competition: Gold Medal.)


MELPO MENE
SOMETIME LET GORGEOUS TRAGEDY
IN SCEPTRED PALL COME SWEEPING BY
PRESENTING THEBES OR PELOPS LINE
OR THE TALE OF TROY DIVINE

Design for a Fireproof Curtain for a Theatre. By Miss Helen D. Copsey.
(National Competition: Silver Medal.)

103 for Silver Medals, 261 for Bronze Medals, 561 for Book Prizes, and 989 for Commendation. Four of the Gold Medals were won in London schools (Hammersmith, Islington (2), and Clapham), and the others went to Birmingham, Macclesfield, Nottingham, Warrington, and Dublin (2).

PRESIDENTIAL ADDRESS TO STUDENTS.

THE seventh ordinary general meeting of the session of the Royal Institute of British Architects was held on Monday at No. 9, Conduit-street, Regent-street, W., Mr. Leonard Stokes, President, in the chair.

Deceased Members.

Mr. H. T. Hare, Hon. Secretary, said he regretted to announce the decease of Mr. William Glover, Fellow, elected 1899. Mr. Glover was a Past-President of the Northern Architectural Association, and represented that body for a time on the Council of the Institute. He was well known for his generous gifts and benefactions to the Northern Association, to the Architects' Benevolent Society, to the King Edward VII. Hospital at Windsor, to the Laing Art Gallery, Newcastle, where he founded a fund for the purchase of works of local artists, and to various other institutions, educational and charitable. Mr. Glover, who retired from practice about twelve years ago, was eighty-two years of age.

On the motion of Mr. Hare, it was agreed that the regrets of the Institute at the loss it had sustained be entered on the minutes, and that a message of sympathy and condolence be conveyed on behalf of the Institute to Mr. Glover's nearest relatives.

Mr. Hare also announced the decease of Francis W. Humphreys, elected Associate 1880, Fellow 1892; and of John Codd, Associate, elected 1880.

The Royal Gold Medallist.

The President said the Council proposed to submit to his Majesty the King the name of Mr. Basil Champneys as a fit recipient of the Royal Gold Medal for his executed works as an architect.

The announcement was received with applause.

Some Licentiates attending for the first time since their election having been received,

The President delivered the following address to students:—

"A year ago I made a promise which I am breaking to-night. I remember it, if you do not, so I am not going to plead forgetfulness, but only that I have been advised that my promise was an unwise one, which had better not have been made, and so had better not be kept. As I have failed, therefore, to produce for you an address to students from a student I will try to take myself back rather more than a quarter of a century to my own student days, and tell you, if I may, few of may own experiences and mistakes; for though at the time I was not of an age when mistakes are generally made, or, at any rate, admitted, yet now I can see very well that I was not quite so infallible as I thought myself to be at the time. Take warning, therefore, and remember that it has been very truly said that even the youngest of us may make a mistake. Well, my first one was that I began my architectural life much too young, and without proper preparation; but as my health broke down time after time at school, and as I had a taste for building rabbit-hutches and drawing tracery windows with a pair of compasses, a kind friend suggested that an architect's office was a nice easy place to be in—he was by way of being an architect himself and should have known better—and that as no examinations were necessary I could easily become an architect. So without more ado I was articled for three years. There may have been some excuse in my case, but from personal experience I can say that no young architect should begin his career without a thoroughly good all-round education. Whether, from an architectural point of view, he should go to one of the Universities or not I am not prepared to say; but from a worldly aspect I feel sure he would be wise to do so.

But to return to my mistakes. The first thing my master, who was quite a good architect in his way, asked me was whether I preferred Gothic or Classic architecture. Well, I thought of my rabbit-hutches and my tracery windows and answered, "Gothic!" The result was not what I expected, for I was set to cut my teeth on "the Orders," and as I could not use my instruments at all properly you may imagine what I made of them. Of course, I should have been taught to draw, and a good many other things besides, before I ever tackled "the Orders" at all, as is now so well done in architectural schools; but as a matter of fact, after the first few months, I never looked at them again—at least, not for many a long year.

My master was an old Architectural Association man, and a great believer in that body, so I was told I must join and look forward to holding some office in it, as he had done. That was my first ambition. Well, the "Brown Book" was studied, and, as the subjects in the advanced class of design seemed easier than those in the elementary class, I plunged into the advanced class without more ado, which, of course, was a great mistake, for whereas my first design was for a cricket pavilion—which taught me next to nothing—I might have been put through my facings on "an atrium to a Roman house" in the elementary class, for which I should have had to look up some authorities and go into the subject properly and refer to my old friends "the Orders." But, not having had any proper schooling, I must needs try a short cut to architectural fame.

This, of course, was the greatest of all mistakes, for the older I get the more certain I am that a good grounding in things architectural is absolutely necessary; so, if you will be advised by me, you won't try any shorts cuts whatever, but go steadily on up the ladder, round by round, from the bottom to the top, and if on looking back you remember having on occasions taken two or three rounds at one time, go back at once, however near the top you may be, and go over them again, one at a time, before it is too late, for we cannot be too thorough in our studies if we want to be authorities in after life.

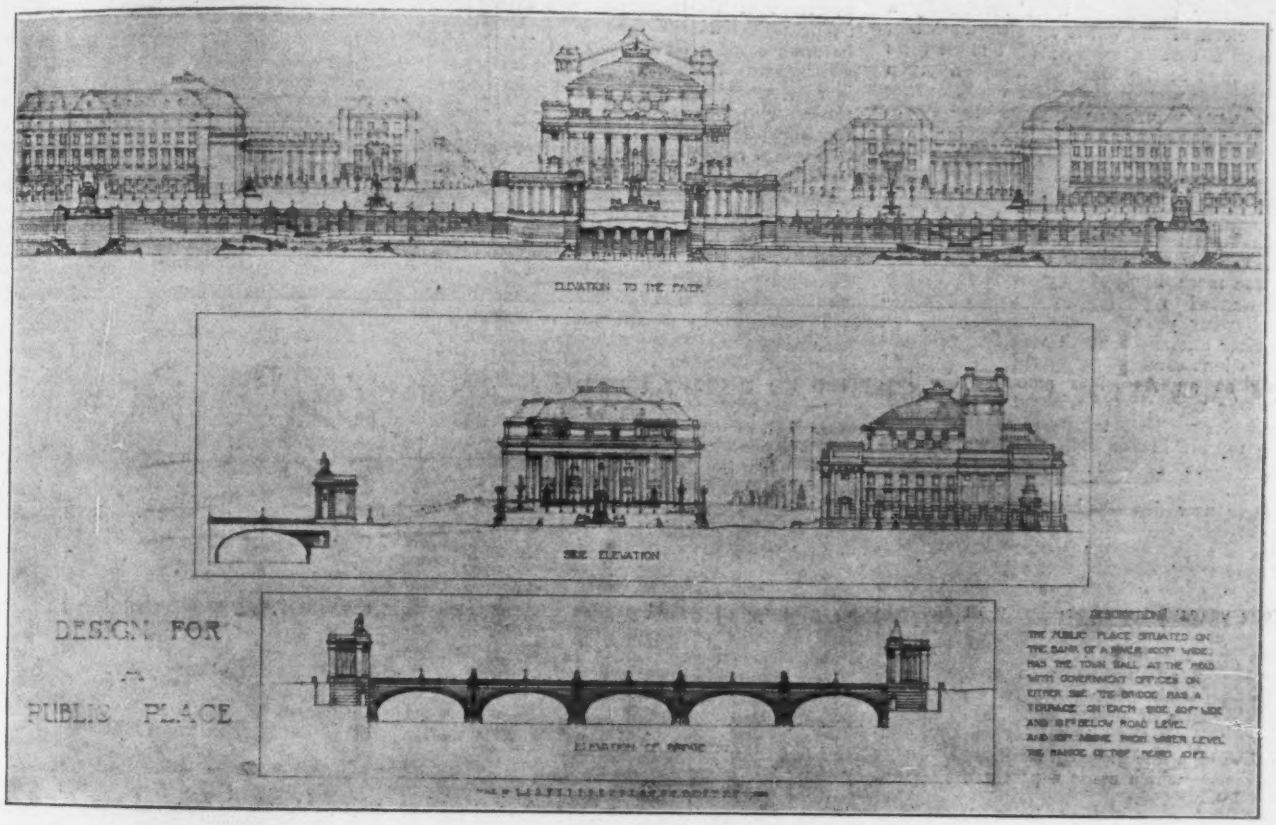
And if we want to be thorough we must cultivate our observation on all occasions. In my nursery days I well remember a little story we were very fond of, called "Eyes and No Eyes." There was a good little boy—"Eyes"—who noticed everything, and his walks were full of interest, for he saw the cows milked, heard the birds sing, and smelt the flowers; whereas "No Eyes" came home having been impressed only by the hardness of the road and the length of his walk. Now, life is full of "Eyes" and "No Eyes"—principally "No Eyes"—and the "Eyes" get on and "No Eyes" do the reverse, particularly amongst architects, for what are we without observation? Is not our one way of learning how to produce desired effects to find out how others have done what we want to do, and to make quite sure how they did it? Do we not measure every inch of the admired object so that we may have it on paper, and by comparing the drawing with the original make ourselves able to judge work the other way round, *i.e.*, by beginning with our paper work, knowing in our mind's eye what it will look like when produced in bricks and mortar? "Eyes" can do this; "No Eyes" can't.

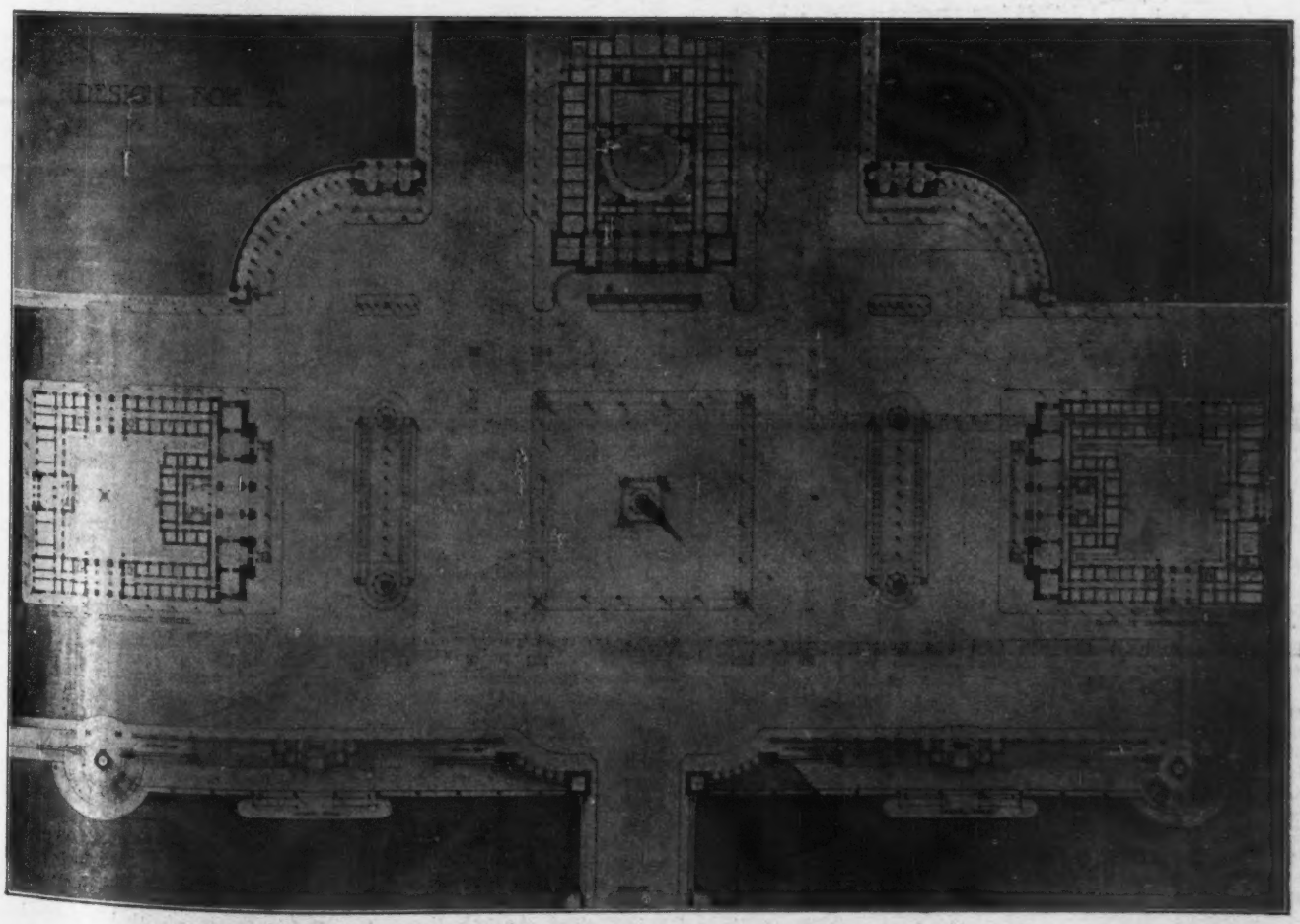
Of course, a sense of proportion is a very valuable gift—whether it can be taught or not I should not like to say; but observation will help us a great deal, and not only observation of the object itself, but also of its position, material, and surroundings, for it is obvious that a slender column which might look right in a screen would look quite wrong carrying a large building, so that we must use judgment with such rules as we have, and to get judgment I contend we must train our own eyes and not depend on other people's.

My three years of pupilage being over, I went by advice into a quantity surveyor's office for a year; and perhaps the only thing I ever learnt thoroughly in my life was how to "square dimensions," for I spent "six months' hard" at it. I also learnt how to

tick abstracts and a few other accomplishments which have been of no use to me since, except that I now have a general idea of what there should be in a bill of quantities—only too often to find that it is not there. While in the surveyor's office I had a month's holiday, which I used largely in measuring up a fine old church, the drawings of which got me into the Architectural School at the Royal Academy as a probationer; but, of course, when I got into the schools I found that I knew much more than my masters—a fatal thing; but I was still very young. The teaching in those days, however, was a very perfunctory performance. Each student got—if he was lucky—a few minutes' criticism once a week from the visitor, while, in my case, what I wanted was solid hours of instruction. But I suppose it was my own fault for going to the wrong shop.

While in the schools I made several vain attempts to win a big prize. The first time I think I might have had a chance but for a much better and more elaborate design. This elaborate design not only lost me that prize, but perhaps the next one also; for the second time I thought that elaboration evidently fetched the R.A.'s, so I would be elaborate, and I was. But Leighton, in giving out the prizes, said there was a want of "expressional fitness" about some of the designs—and there no doubt was. Elaboration had failed, so next time "expressional fitness" was my one idea. But this did not come off either. The mistake I made after my first attempt was not going quietly on





Design for a Public Place Situate upon the Bank of a River. By Mr. William A. Ross (Marylebone).
(National Competition: Bronze Medal.)

doing the best I could without any regard to my judges, or, at any rate, to my idea of them.

Take warning, therefore, and never, whatever you do, either play up or down to your judges, even if they are the Council of the R.I.B.A. Do justice to yourself and yourself only, and never bother about anyone else—until you get a client; and then, unless you have luck, you may perhaps even wish you hadn't got him.

After I had finished my year's quantity surveying—*i.e.*, about the time I got into the Academy schools—I went for nearly a year as clerk of the works on a big building, and saw a certain amount of life and its wicked ways in the building line; and then about another year or so at office work, during which time I won my only prize—the Pugin—more by good luck than anything else, for there were two other men better than I was, but they were so equal that the judges could not make up their minds which was the best, so they gave it to me, much to my surprise, for, although I had sent in some good honest work, I knew that either of the two other men was more likely to get it than I was, but I wanted to get my hand in for perhaps the following year.

Another mistake I made was to avoid the examinations established by this Institute by joining as an Associate amongst the last batch who were elected without examination, instead of even then taking to my books and fitting myself in the only right way—for a youngster—to become a member of this Institute.

I have now described to you my student days proper, and will let you off the old platitude about being a student all my life. The only thing that I have omitted to mention is that for about three months in each of four years I travelled—twice in England and twice on the Continent—my only regret being that the bulk of my work was not more serious and not quite so sketchy; but, in common with other students, my eye was caught by bits of pretty detail, and, instead of worrying out the general scheme and construction of a fine piece of work, some dodgy little corner which made a pretty sketch was too often selected.

Now, the lesson I want you to learn from all this is that I was too young and not half equipped for anything at the time I attempted it, and that I drifted into practice long before I should have done, and here I am in the chair holding forth to you some ten or fifteen years too soon—not that ten or fifteen years can make any difference to me now, but properly spent at the beginning of my career they would have enabled me to address you this evening with much greater advantage and profit to yourselves as students."

Works Submitted for Prizes and Studentships.

Mr. Gerald Horsley, Owen Jones Student 1887-88 and President of the Architectural Association, then made some criticism of drawings submitted for the Institute prizes and studentships 1911-12, in the course of which he said :—

"Time has not permitted me to read the essays which were submitted, but I am indebted to Mr. Reginald Blomfield, who took part this year in judging them, for some valuable remarks concerning them. He says :—

"The essays sent in for the Institute Silver Medal were unequal. Some of them were irrelevant to the subject, but that sent in by "Redundancy," to which the prize is awarded, is an exhaustive and thoughtful essay on a difficult subject, and has well earned the prize.

Certain serious literary faults appear in the majority of these essays, such as a tendency to rhetoric, which fails of its purpose; a habit of powdering the essay with quotations from every possible writer, poets, essayists, and others, many of them having little or no bearing on the points under consideration; flippancy and familiarity in style, occasional lapses of grammar, and, lastly, a mistaken conception of what either an essay or a book should be.

Many of these essays are mere strings of classification; the subject is divided and subdivided till it runs out like a river, lost among the sands. No central idea emerges as a result of all the industry, and the writer appears to forget that an essay or a book should be an organic composition with a beginning, middle, and end, and a backbone of some definite idea running through the whole.

The object of these essays is not a display of literary fireworks, but the clear and logical presentation of the ideas and conclusions that result from the careful study of facts. The art of the writer should not obtrude itself; it is shown in the orderly marshalling of his forces, in the lucidity and precision of his statement, and in a certain suppressed emotion that gives the deeper harmonies of his music. A method of writing which shocks and jars is wrong. It is with writers as with artists—the best are those who make least parade of their technique."

I would recommend this excellent criticism to the consideration of all architectural students. I am persuaded that much of the ignorance of the laws of composition shown in some of these essays may be traced to the inadequate literary training which obtains in our secondary schools. I believe that the time must come when the many-sided character of an architect's education will necessitate a better understanding and co-operation between our architectural schools and the secondary schools of this country. In the meantime I would like this admirable criticism of the essays to be in the hands not only of our students, but also of every schoolmaster in the land. Some of the mottoes displayed on the drawings bear out my contention. A motto should be in good taste, and at least grammatical. "Φερω κυνκρετε" in Greek characters is senseless, and what can possibly be said of "Ego fecit" and "Fer dans blancmange"? In turning to the exhibition of drawings, we find it consists, as usual, of two parts—(1) that which comprises exercises in design, and (2) studies in ancient architecture.

In forming some judgment of these two divisions a careful observer will discover, I think, a certain weakness in the design section and a certain strength in the other. The fact that this year the Soane Medallion has not been awarded supports this view. The strength in the design section lies in the excellent work submitted by the winner of the Tite Prize. The way in which he has solved the problem presented for solution and the quality of his drawings should be particularly noticed. He has best fulfilled the purpose of this competition, which is to produce a fine design finely drawn. The Soane Medallion is not awarded this year for the reason that no one of the designs shows a real grasp of the conditions governing the competition or an entirely satisfactory solution of the problem. The Council have decided, in consequence, to bracket together the two designs under the mottoes "Circle City" and "Antæ" in honourable mention, and to divide the prize of 100*l.* between the authors of them. With the decision of the Council I agree, for when an exhaustive study of the drawings has been made it must be admitted that justice has been done in circumstances where the choice and decision were of considerable difficulty. The two successful designs represent two different views of the problem, and neither has wholly succeeded. "Circle City" has apparently been over-influenced by the fact that the building is intended to stand in a park. The simple lines of his plan, with all the principal rooms on the ground floor, suggest too much an enlarged garden pavilion. This suggestion is fatal to the expression of dignity a civic building should possess. Moreover, it is questionable whether in actual building the conjunction of a rectangular and circular structure would look well. It is possible it would rob the completed building of balance and grace. Personally, I should also fear, in a circular building of this size, the creation of tiresome echoes. The arrangement also of the plan has prevented the provision of a suite of reception-rooms in direct connexion with the principal apartments. Although a large and handsome reception-room is shown on the first floor, it is too remote, and is only directly connected with a small gallery of the Guildhall. "Circle City's" chief strength lies, first of all, in the restraint which is shown in the design of his elevations, a restraint which is very welcome in these days of what is called "free classic"; and, secondly, in the way in which he has displayed his design. The drawings in pencil, with light washes of colour, are the best in the room.

The author of the set marked "Antæ" has treated the problem very differently. His plan is of the type of an *hôtel de ville*, which would be quite suitable to the centre of a large town; but, on the other hand, the elevations, notably the façade adorned with caryatides, which give an unusual touch of gaiety to the design, are very appropriate to the open position proposed. The weak spot in the scheme is that the central Guildhall is too small. It would not be possible to seat 1,200 people upon the floor, the seats which are shown on the plan being far too near together from back to front. The small size of the hall has led to the entrance-hall being unnecessarily large, and it is doubtful whether the assembly-hall and reception-rooms on the first floors are of sufficient dignity or importance. By being only directly connected with the banqueting-hall and galleries of the Guildhall they would be likely to be circumscribed in use. Generally speaking, the author is to be congratulated upon a design which is restrained and dignified in character. The Greek *motif* adopted in the elevations has been carried out with dicrimination. With the exception of the site plan and some accessories in the perspective drawing, which would be better away, the draughtsmanship is decidedly good, especially in the case of the detail drawing."

Having dealt with other designs submitted for the Soane Medallion, Mr. Horsley made the following observations in regard to the Tite Prize drawings :—

"Turning to the drawings submitted for the Tite Prize, mention has been already made of the excellent work provided by the winner, Mr. Louis de Soissons. The plan is admirable for the purpose—namely, the central courtyard of a Royal Exchange. It is thoroughly well thought out, stately, with ample and dignified entrances. The courtyard itself is as large as possible, a first consideration in a Royal Exchange. The proportions of the building are exceedingly good, especially in the well-designed "Order" of the interior. The drawings are beautifully executed, and gain technically by the careful showing of the jointing. Their good effect is rather marred by some signs of hurry in the detail drawings."

Other designs submitted in the competition having been referred to, Mr. Horsley said :—

"On leaving the consideration of these drawings for the Soane Medallion and the Tite Prize, permit me to congratulate the Royal Institute upon its recent decision to make a competition in design one of the compulsory features in its final examination. This competition will oblige the student in the future to study design systematically. Every architect who has seen the good work done by young students in French ateliers in the *petits concours*, or sketch design competitions so frequently held there, will surely hope such trials of strength may be more frequent among our own students. Even in the case of the youngest it is no bad thing to encourage him sometimes to "hitch his wagon to a star," or "dip his pencil in the hues of the rainbow."

In the competition for the Grissell Gold Medal four competitors have entered. To "MCMXII." the prize has been awarded. Undoubtedly this design best fulfils the requirements of this competition. The construction is extremely well adapted to a temporary building, and the plan is quite good, though, personally, I should prefer a more dignified architectural treatment for the housing of an art exhibition. . . .

Turning to the second part of the exhibition, I shall speak first of the Measured Drawings Prize and Silver Medal. This is a very good competition. Five sets of drawings are submitted. After a careful study of them and a scrutiny of the measured work and sketches done on the spot one feels that Mr. Maxwell has well earned the prize. His portfolio of measured studies is an admirable example of what such a collection should be. Taken together with his finished drawings, it shows that his study of this beautiful old house, Compton Winyates, has been

thorough and exhaustive. In making his survey sympathetic and complete he has realised more than any of the other competitors the special purpose of this prize—viz., to encourage a comprehensive and highly intelligent study of an ancient building of importance. The result is that he has produced a set of drawings in a manner worthy of the interesting example of English architecture he chose to study. I should, however, draw attention to the fact that the finished drawings consist of mounted tracings from drawings made on the spot. I think such a practice is to be strongly deprecated, for the reason that tracing-paper, however well mounted, is a fragile material of little natural permanence. Measured drawings of this importance may pass into our national collections, such as that at South Kensington, and should be on sound English drawing paper."*

Mr. Horsley also referred to the drawings submitted for the Pugin Studentship, the Owen Studentship, and the Arthur Cates Prize.

Sir Henry Miers,

Principal of the London University, in moving a hearty vote of thanks to the President for his address, and to Mr. Horsley for his criticism, said the President had shown himself an artist in words as well as in stone, and what he said would no doubt sink into the minds of those who heard him and have as lasting an effect on them as anything they could see in the admirable designs hung on the walls that evening. He was glad the President had referred to the importance of a good all-round education for architects, because, at the University, they had that very much at heart, and they hoped they were laying the foundation of a really strong school of architecture in London inspired by university traditions and carried on on university lines, and they hoped they would have, in carrying out that school, the advice and assistance of the Institute. They looked forward to the co-operation of the Institute in building up a strong school of architecture. They were looking forward to have before long a really dignified home for the University of London which would bear comparison with those other university buildings which grace other cities, and it might be that one of the Institute students whose designs were on view might design a really fine and lasting building for the University of London.

Sir Alfred Keogh,

Rector of the Imperial College of Science and Technology in London, said the teaching of architecture had been rather neglected in the past, and one rejoiced to hear the President say that attempts would be made in the future for the improvement in the education of the rising generation of architectural students. The necessity of improved education was recognised in all professions, and he knew that a good many members of the Institute had recently considered the desirability of giving to architects a sounder scientific education than they received at present. They knew that efforts had been made by the Institute to bring home to architects the necessity for an acquaintance with scientific work. It was desirable that architectural students should have a more close acquaintance with the materials which they use than they possess now, and attempts had been made at the Imperial College to provide something in that direction—inadequate, no doubt, but it was hoped that in time their efforts would meet with approval. In that way, no doubt, the Imperial College would do something to provide for the efficiency of members of the architectural profession. He heartily seconded the vote of thanks.

Mr. Hare, Hon. Secretary, put the motion, which was heartily agreed to, and the President replied on his own behalf and for Mr. Horsley.

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*In reference to these remarks, we have heard from Mr. Horsley as follows:—"I am glad to say that Mr. Maxwell informs me that the paper is not tracing paper, but a transparent, tough paper of a permanent character, called 'English Bank.' I am inclined, however, to favour the old-fashioned English hand-made drawing paper as being the best for important drawings of this character."

The prizes and studentships were then presented to the successful students. The list of successful competitors appeared in our issue for January 26.

The President announced that the next meeting will be held on February 19, when Mr. E. Warren, F.S.A., will read a paper on "Collegiate Architecture."

The meeting then terminated.

THE ARCHITECTURAL ASSOCIATION:

SECOND SPRING VISIT.

THE second visit of the session was made on Saturday, January 27, to the new building of the Regent-street Polytechnic. Members were met by Mr. G. A. Mitchell, A.R.I.B.A., by whom they were conducted over the building, which is conveniently arranged and fitted for the educational work of the Institution. The new front portion contains two basements, ground floor, and six stories above. The major part of the ground floor consists of an entrance hall 60 ft. square, approached by a well-planned lobby with revolving doors on either hand forming the sides, and ordinary swing doors across the width—not for general use, but for occasions of exceptional pressure. The hall is lined with marble sheeting and has columns of Skyros. At the rear are the stairs and two electric lifts. The basements are occupied by the workshops of the Engineering School, the Physical Laboratory, and the appliances for heating the building, which is accomplished by forced hot water, three sectional boilers (one as a standby) and two circulating pumps accomplishing this with a drop of only 10° on the return mains. The old gymnasium has been dropped one story—what was originally the floor being now the gallery, and the old gallery, floored completely over, now forming a suite of club-rooms easily approached from the hall by the straight lower flight of the main stair. The first floor is mainly administrative, the two succeeding floors contain the classrooms of the Polytechnic Day School, on the fourth floor are the School of Architecture and the School of Photography, while the two top floors are devoted to the art-rooms, the topmost series lighted by a sawtooth roof masked by the lofty slated curb of the front elevation. The building is of steel-frame construction, all riveted, and with ferro-concrete floor slabs averaging 21 ft. by 7 ft. 6 in. It is stated to be the first steel-frame building passed by the London County Council under their General Powers Act, making this system economically available. All this work was carried out by Mr. Mitchell. Descriptive articles have appeared in the *Builder* of November 17, 1911; December 8, 1911; and January 26, 1912.

The external façade is part of a general scheme for the treatment of the whole block, and is due to Mr. F. T. Verity, F.R.I.B.A. A perspective drawing showing the completed scheme was exhibited for inspection, and shows how much the effect will gain when the relatively solid end blocks are added and the columned screen extended. At present it shares the defect of other Regent-street rebuildings—that it is violently out of scale with its surroundings, for which the architects cannot be blamed; it may be hoped, however, that the completion of the scheme may not be delayed until the expiry of adjoining leases—perhaps neo-Greek will not then be fashionable. A detailed consideration of the design at once suggests comparisons with Selfridge's, where a somewhat similar problem arose. The solution, in this instance, though on somewhat similar lines, is in some respects hardly so successful. Half columns always have an air of unreality, and columns which are patently seen to carry nothing still more so. The device by which the main cornice surmounts the attic instead of the Order is a clever piece of design, and the detailing is harmonious, with the possible exception of the metal-screen front. The construction of the lowest stage of this screen in stonework is also a doubtful improvement. Comparisons apart, however, the front is a scholarly design, cohesive as a whole, and never descending to triviality.

THE ROYAL ACADEMY LECTURES ON ARCHITECTURE:

ARCHITECTURAL DRAWING.

PROFESSOR R. T. BLOMFIELD, A.R.A., delivered the first of his Royal Academy lectures on Monday, taking as his subject "Architectural Drawing and Illustration," and dealing in the subsequent part of his lecture with Villard de Honnecourt.

In the course of his remarks Professor Blomfield said he proposed to talk about architectural drawing, to endeavour to disentangle the ideals to be aimed at in such drawing and the point of view from which it should be approached. He intended to enlarge the scope of our conception of architectural drawing by tracing its development in the past and by reviewing the work of certain great masters of the art. Though we could not help noting the work of contemporaries, it was not here that we should search for our touchstone of criticism, but in the achievements of men long since dead. Fashion had so much to do with current reputations that the only safe standard to judge by was that set by the men who had long been recognised by competent judges as past-masters of their art. The verdict of time was seldom wrong, and students—at any rate, in their training—would be wise to take as their masters only those artists whose reputation had stood the test of time, and to regard with an open mind and even suspend judgment on methods and models that were still in the melting-pot. They must in selecting their models fortify their judgment by history and by the study and analysis of old work. A good deal of caution was wise in appreciating the progress of contemporary draughtsmanship. Was it better than the work of fifty years ago? Were our line-and-wash drawings up to the standard of Girtin? Was there any living draughtsman who could use his pen and his blot as Piranesi did in his lightning improvisations? One could safely say there were no such draughtsmen now. But if one shifted the standard, if one compared modern drawing or modern architecture with what was accepted as such in England fifty years ago, he did not doubt that there was a marked improvement. The architecture, and with it the draughtsmanship, of the middle of the XIXth century was founded on no solid basis of inheritance; it sprang out of nothing in history, and it had ended in nothing, except that, as a reaction against this unprofitable emptiness, artists had gone back to earlier traditions. In recent years they had attached themselves more particularly to the French tradition of draughtsmanship, which in the last twenty years had overrun this country and America. Fine as that tradition was, it was by no means the complete and only standard of architectural draughtsmanship. Far from it; it was itself only a very dexterous convention which attained its perfection by eliminating half the problem. We must go much further afield than this if we were to understand the whole gamut of notes on which a really great architectural draughtsman can play. Generally the object of architectural drawing was the representation of architecture. It did not include for the purpose of this study the architectural background of pictures, but in this connexion he called the attention of students in painting to the necessity of the serious study of architecture as an essential part of their training for decorative painting.

A difference presented itself in architectural drawings according to the intention with which they were made. This intention might be either objective or subjective; that was, the intention of the draughtsman might be either to make drawings which could be carried out in building by other hands exactly as drawn, or he might wish to produce in somebody else's mind the impression of the building as a whole as he conceives it, or he might employ architectural forms as the symbols and embodiments of some abstract idea, the imagery of a world which never has existed in fact and never can. In the first case he would proceed by geometrical drawings; in the second and third by perspective representation with such accessories as skiography, etc., as might be necessary to drive home his ideas. There

were two essential conditions of geometrical drawings: they should be perfectly accurate and they should be perfectly clear. The ultimate intention of these geometrical drawings is their translation into stone, bricks, and mortar by a builder who, except for the drawings and the specification, was ignorant of what was in the designer's mind. One could not help wondering what must be the inner thoughts of experienced builders when they came face to face with some of the drawings with which they had to deal.

As to drawings being perfectly clear, he regretted to say that certain vicious tendencies in architectural drawings had appeared in recent years, notably the use of a very thick line and the use of a very thick line in connexion with a much thinner line. The use of the thick line was due, he believed, to the mediæval proclivities of William Burges, a fine draughtsman spoilt by his fondness for mummery and posing. Burges deliberately copied the methods of mediæval draughtsmen, with the result that what should have been studies of fact became mere exercises in style.

The second, and possibly even more injurious, use of the thick line and the thin line had originated in competitions. In a room full of drawings by different designers competitors had feared that their drawings would be overlooked unless some strong insistent line shouted its existence at the spectator. With variations of line not only were all the refinements and subtleties of architecture lost, but the breadth of effect goes too. Nor did he believe that it made any but an unfavourable impression on an assessor who knew his business, and who, of course, read the elevation by the plan and section. As to the builder, the effect of such methods of drawing must be simply paralysing. Line should be finely drawn, uniform in thickness, sufficient to express neither more nor less than the architectural features intended. They should have thought out exactly what they wanted before they put their final line to paper, for line so drawn became a part of business of serious importance, as careless architects had found to their cost when the damning evidence of an ill-considered line stared them in the face in their contract drawings.

He warned them against a common abuse of skiography, which he noticed in the work of many students, and that was the habit of projecting violent shadows over every part of the plan. The result was that the drawings were illegible. Besides making the plan unreadable, it also made it very ugly. In their geometrical drawings they would do well to eschew all such tricks and devices and be content to do a plain thing in a plain way.

The situation was almost reversed when we came to the second function of architectural drawing, that of producing in the mind of another the impression of an architectural idea. We were not concerned here with a bare and literal statement of facts. The impression aimed at was a complex one; that was, the draughtsman aimed at producing the impression not only of certain abstract forms of architecture, but of those forms as a whole, and as a whole considered in relation to its placing on the site, its environment of sky and landscape, even the intention of the building, all subjective matters, incapable of literal translation into fact, but scarcely less important than data given by the working drawings in the building up of the total impression to be conveyed to another mind. The line that in the geometrical drawing had to be hard and precise, now became sensitive, even tentative, feeling its way and clinging on to the idea, as it were, in order to suggest it in all its multifarious complexity. Absolute accuracy of detail was less important here than accuracy in the statement as a whole.

As to the third class of subjects, *i.e.*, the use of architectural forms for the expression of abstract ideas, the draughtsman was to all intents the free artist, with no limits to hamper him but those of his knowledge and imagination.

Having referred to the subject of isometrical projection, the lecturer proceeded to trace the development of architectural drawing and illustration. He referred to the scarcity of working drawings in the Middle Ages, and gave reasons for thinking that no system of preparing such drawings existed, at any rate, in the earlier part of that period. After referring to one or two rare examples, the lecturer went on to describe the work of Villard de Honnecourt, pointing out their value on the one hand and their limitations on the other, and calling attention to the wide difference of conditions under which buildings were carried out in the Middle Ages and the Renaissance as the real reason why architectural draughtsmanship, which had little or no place in mediæval times, became and remains an absolute necessity in neo-Classic architecture.

SOME DRAUGHTSMEN OF THE XVITH CENTURY.

In his second lecture Professor Blomfield said that architectural drawing as we understand it really dates from the earlier days of the Italian Renaissance. He did not know if there were any drawings of Alberti in existence, but there were drawings by Bramante and a considerable number of drawings by Giuliano da San Gallo, his brother Antonio, his son Antonio, Peruzzi, and others. There were also the painters Mantegna, Carlo Crivelli, Pintoricchio, Ghirlandajo, and others, who used architecture very freely in their compositions, and with obvious enjoyment in its design. The architecture in the background of their pictures was beautifully conceived, for these artists of the Renaissance were enthusiasts for the new architecture that scholars were discovering for them from the remains of ancient Rome, and their ingenuous minds were fascinated by experiments with the newly-formulated rules of perspective. These painters realised in a way that had been forgotten in modern times that the arts, though separate, were also related, and that the artist should be alive to beauty in every art and in other arts than his own. They simply would not have understood the point of view of the modern painter, who in his own heart did not believe that architecture was an art at all.

Villard de Honnecourt was an accomplished artist in his way, yet hardly, except in a summary and rudimentary manner, an architectural draughtsman. From internal evidence he (the lecturer) took it that Villard de Honnecourt was wandering about France with his sketch-book early in the XIVth century. After him we draw the Middle Ages blank, with unimportant German exceptions at the end of the XVth century. Indeed, one might say with the most complete probability that architectural draughtsmanship did not exist, the necessity for it not having as yet arisen in the practice of architecture. But meanwhile in Italy there had come about that astonishing outburst of intellectual activity which we call quite vaguely the Renaissance. The mere indications adequate in mediæval architecture were useless when designers wished to build in a manner unknown to the ordinary workman. More than that, the designer had to master that manner himself by unremitting study of the innumerable fragments of ancient architecture still left in Italy. It was owing to the emancipation of the individual and to the radical change in the aims and methods of architecture that architectural draughtsmanship came into existence. It was essentially a modern art, the complement of methods of architecture and archæology which were undreamt of in the Middle Ages.

The lecturer then referred to the album of drawings by San Gallo in the Barberini Library at Rome, the drawings, seventy-six in number, being made in pen and ink on sheepskin sheets. Some of the earlier drawings were crude, and San Gallo never drew the figure well, but in many of the drawings the profiles were firm and unfaltering and the details were drawn with clearness and precision. Here one got for the first time the method of drawing architectural details which became general in printed books of architecture of the following century, and in its directness of statement and scholarly selection of essential features this was in some respects a model for technical book illustration. But San Gallo was destitute of that imaginative insight which made some architects' sketches so delightfully suggestive and personal.

Bramante had nine characteristic drawings at the Uffizi, but the work that showed most clearly his power as an architectural draughtsman was the magnificent engraving in the British Museum representing the interior of a Temple Hall. It was a strange drawing, but it showed a rare faculty of chastened architectural design and a technique based on that of his master, Andrea Mantegna, and scarcely inferior to the work of that incomparable artist. San Gallo, father and son, and Bramante and his pupils might be taken as the founders of architectural drawing, and their drawings as compared with the work of later draughtsmen had an almost archaic purity of line. Bramante's powers, both as designer and draughtsman, were beyond question, but Peruzzi, his pupil and assistant, and the greatest of the Renaissance architects, went more to the root of the matter in the drawings which he made for Bramante. Peruzzi and Antonio da San Gallo the younger possessed extraordinary freedom of drawing in pen and ink.

At the beginning of the XVIth century a fresh factor of vast possibilities appeared in the printed and illustrated books of architecture. The draughtsmanship here exhibited was at first and for many years a very humble affair, and it seemed surprising, after Bramante's magnificent engraving, that the early editions of Vitruvius should have been illustrated as crudely as they were. The first genuine advance in architectural illustration seemed to have been made by Serlio in his "Architettura." He was not a fine draughtsman in any sense, but he followed Giuliano da San Gallo in the critical spirit, and the anxiety to get at the facts with which he applied himself to the study and presentation of architecture.

Palladio was an accomplished draughtsman, and his design for the completion of St. Petronio at Bologna was beautifully drawn. Good man as he was, he was content, however, with rather cheap and easy attainments—stones instead of masonry in his architecture, conventions instead of searching study in his drawings.

As to De l'Orme, he was an artist of much ability and energy, but uncertain in taste and a somewhat unscrupulous poacher, and he referred to him more on account of the historical interest of his illustrations than for their value as drawings.

The next advance in architectural drawing was due to Du Cerceau, that indefatigable draughtsman who spent his life in turning out worthless architectural fancies and fragments that did more harm than good, and also in making views of the great houses of France, which were of inestimable value. He had little genuine sense of architecture, but the work he did in his "Plus Excellents Monuments" was quite admirable in its way and of the highest value to the historical student. He had at his command a line of unfaltering precision. He could, if he wished, draw almost anything. On the other hand, there was little trace of any imagination reaching beyond the subject such as we found in the thumb-nail sketches of Peruzzi and the younger San Gallo. His drawings were very clear and of scientific accuracy, but they left one cold. Du Cerceau seemed to be intensely honest in his drawings of buildings and the exact opposite in his fancy designs, and it was on the former that his enduring reputation rests. The other half of his work raised the whole question of the draughtsman-designer—that was, of the man who sat at his drawing-board and turned out design after design without the least regard to materials and to the conditions of their realisation in fact. There was an unwholesome growth of such men at the end of the XVIth century.

These men were the forerunners of the much more considerable draughtsmen of the XVIIth century. They were all members of the same family, industrious builders of "Châteaux d'Espagne," indefatigable and unprofitable designers in the air. It was possible they might suggest ideas; personally, when looking through these books of design, from Du Cerceau to Oppenord, he had never found the thing he wanted. Others appeared not to have found it so, judging from the abundance of these books of design in the XVIIth and XVIIIth centuries. Yet it seemed almost impossible that

in a design thought out from end to end, a design that aimed at unity of effect, these gobbets from another mind could be rightly assimilated; they could only result, not in architecture, but in a compilation of architectural detail without meaning or cohesion. The draughtsman's line showed the expression of first-hand knowledge, its means of conveyance to other minds and other hands; and unless there is this knowledge behind drawing, inspiring and controlling it, the result would be disastrous. Because construction is of essential importance in architectural design, men had been tempted to say that draughtsmanship did not matter, and that, he believed, was a mistake, for the architect's business was not merely to state the facts of construction in his building, but he had to state them in a form that was beautiful.

BOOKS.

The Story of Ford Abbey. By SIDNEY HEATH. (Francis Griffiths. 10s. 6d.)

FORD ABBEY, Dorset, has a history dating from the XIIth century, and the story is not without architectural interest. The details of ecclesiastical routine, with the duties of the various officers connected with this and other monastic establishments, are outside our sphere, but there is much in this book otherwise which attracts attention. After the Dissolution the building passed through various hands, and in 1649 belonged to Sir Edmund Prideaux, who employed Inigo Jones to improve it. This he did to some extent, and would have done more but for his death in 1652. Mr. Heath is satisfied that the death of the restorer was of benefit to the building. "It was Jones's intention to convert the whole of this fine Gothic house into a classical one, but his death interfered with this project, and it is probable that had not this event taken place, there would be little to see to-day of the wonderful structure erected by its last Abbot (Thomas Chard). It is only fair to add that internally the house was much improved and highly embellished, making it one of the most magnificently appointed houses in the country."

The building seems to be in good hands at present, and with its tapestries and other works of art it is worthy of a pilgrimage. Mr. Heath's serviceable monograph includes a plan, with reproductions of photographs and pen drawings.

Ceiling, Ford Abbey.
(By permission of Mr. Francis Griffiths.)

The Life of James McNeill Whistler. By E. R. and J. PENNELL. New and Revised Edition (the fifth). (London: William Heinemann. 1911. 12s. 6d. net.)

IN the new edition of this work Mrs. and Mr. Pennell have taken the opportunity of adding numerous little touches to their life portrait of Whistler, touches that have all been carefully studied with the single aim of adding vividness to the realisation of the artist as he lived. Few biographers have been so fortunately placed in regard to their relationship to their subject. An intimate knowledge of the circle in which Whistler's later years were spent and a keenly sympathetic attitude towards his art are but two of their many qualifications.

Some day we may hope to see this picture of the artist's personality supplemented by another work on the development of his art. Probably the time for this is not yet, and our authors in this case feel, in their admiration of the consummate quality in Whistler's work, that it would be an impertinence to attempt any such philosophic appreciation as that we have hinted at. What the painter himself would have thought of such an attempt one may guess fairly easily, but sooner or later it will be made, and when it is we trust it will be at the hand of one who can devote to it the same sympathetic and faithful study that the book before us gives to the events of Whistler's life and the development of his strikingly individual and brilliant personal characteristics. No book on Whistler could be dull; but this, which has reached its fifth edition within three years, is packed with bright things and entertaining anecdote. Perhaps it would have been difficult to mingle the story of his artistic development with these, and those works of his which are reproduced are therefore left to tell their own tale with merely an added date.

Costumes, Traditions, and Songs of Savoy. By ESTELLA CANZIANI. (London: Chatto & Windus. 1911. 4to. 1*l.* 1s. net.)

THIS work is a striking example of colour printing, and is, in other respects, remarkably well produced, reflecting in these respects great credit on all concerned. It is difficult to see how it can be issued at the low price of 1*l.* 1s.

It is the outcome of an intimate study of the life and scenery of the little-known mountain districts of Savoy, which must have occupied Miss Canziani's energies over an extended period. The drawings of national costume and characteristic personal ornaments are of quite exceptional interest to the artist, while the racy descriptions of peasant life and customs will hold the attention of the general reader. In landscape the method of handling does not lend itself quite so well to reproduction as in the figure studies. The best of these latter are the larger-scale drawings, showing head-dress and bodice, in some of which the heads are remarkably finely characterised.

No one who has not been over the ground covered by Miss Canziani could realise the extraordinary variety of very decorative costume to be found in this out-of-the-world province. At the present day, when all European dress is so rapidly conforming to uniformity, it is refreshing to find one district at least where the traditional garb is still in vogue. It is to be hoped that Savoy may continue to keep up its distinctive national traits, but, in any case, we must feel our indebtedness to this work for putting on record so much that is interesting in this somewhat neglected corner of Europe. It is obvious that few could have done such a service in the intimate fashion that Miss Canziani's gifts in draughtsmanship and linguistic attainments have enabled her to do, and congratulation is due to her in that she has employed her talents to such good purpose.

The Local Government Annual and Official Directory for 1912. (27A, Farringdon-street, London, E.C. Price 1s. 6d.)

THE twenty-first annual issue of this compact and useful compilation is just published. The main portion of the book is devoted to the directory, which gives the names and addresses of the chief officials of all corporations, London borough councils, county councils, boards of guardians, urban and rural district councils, county and borough asylums, etc., throughout the kingdom, as well as a list of the City companies of London. In addition will be found the names of the members and officials of the Port of London Authority.

Besides the directory, there is much information relating to baths and washhouses, and electric light undertakings in the boroughs of London, and an abstract of the local government legislation of 1908 will be found. The work contains a list of all the parks and open spaces of the metropolis, with the local authorities controlling them.

THE INSTITUTE OF SANITARY ENGINEERS.

On Monday, February 12, at the Royal United Service Institution at eight o'clock, Mr. Edward White, Chairman of the London County Council, will take the chair at a meeting of the Institute of Sanitary Engineers, when the question of "Hospitals and Sanitoria and Their Relation to Tuberculosis" will be under discussion. Dr. F. C. Davies, Medical Officer of Battersea Tuberculosis Dispensary, will read a paper dealing with the history of the infectivity idea in relation to tuberculosis and its results in the modern attitude of public health authorities towards its treatment, and Mr. A. Alban H. Scott will deal with the question of the planning and designing of modern hospitals and sanitoria on the lines to meet the requirements of the medical profession at a cost suitable for both private and national sanitoria.

THE CARPENTERS' HALL LECTURES:

LONDON AS AN ARCHITECTURAL SYLLABUS.

THE second of the present series of Carpenters' Hall Lectures on the "Arts Connected with Building," was delivered in Carpenters' Hall, London-wall, on Wednesday last week, by Professor Beresford Pite, Mr. Percy Preston presiding.

Professor Pite, the subject of whose lecture was "London as an Architectural Syllabus," said he thought it would be useful if we attempted to classify our ideas of the buildings of London with which we have to live. Nearly everybody had opinions on the subject, but public opinion on London architecture was, to say the least, confused, and in order to offer an opinion on architecture one had to rely upon some sort of principles. In artistic matters principles were things which were very easy to invent to meet the particular needs of the moment, though there were a great many sane principles in common use which were only imperfectly understood and improperly applied, and there was the danger. As a general rule, architectural text-books which took the architecture of the whole human family from its earliest day down to the present, and codified the buildings of mankind, with styles and dates of buildings, were of little value in dealing with current criticism of London buildings. He did not pretend to attempt to deal with the whole problem, but his lecture had underlying it the idea that London had in itself the material for providing a useful architectural syllabus of opinion, of doctrine, and of criticism, so that it was not necessary to travel in Italy or Greece, or to absorb an encyclopædia, or to pass an examination conducted by the Royal Institute of British Architects in order to know the character and value of the buildings by which we are surrounded.

Architectural design could be described as a matter of detail. It was detail which mattered in architecture, and there was small scope in the practice of architecture and building for the novel application of old principles or the discovery of new. He ventured to suggest that the moment was somewhat opportune for seeking to elicit public interest in the architecture of London. In recent years there had been a considerable growth of public interest in architectural matters, and quite recently—in fact, the most recent event which had happened in the architectural world, and an event of the very greatest importance — was the publication by the Government of a new plan for the improvement of access by the great arterial roads to and around London. That very important plan, recently published by the Traffic Department of the Board of Trade, carried the development of London very much further than any similar event in the lifetime of anyone there. As we looked at this very important scheme and considered the effect of these great roads we got face to face at once with the important relation of roads to buildings—what should be the direction of approach, what should be the effect aimed at in an important public thoroughfare from the point of view of beauty? The link between the traffic plan, the road plan, to the architectural approach was very close.

He would suggest at once that we have a real architectural syllabus as architects and builders provided by law, and that there is a limit set which entirely governs our proceedings and designs, and which, in a sort of subconscious way, gave architectural results—*i.e.*, the London Building Act of 1895, which deals, amongst other things, with the formation of streets, open spaces about and height of buildings, an architectural implication underlying each of these matters. Then we came to the structure and the thickness of walls, to rules for recesses and openings, as to height, of roofs and angles, dormer windows and chimneys, staircases and projections; in fact, we could not create an architectural design without dealing with every one of these items, and in every case the law gave distinctive rules. With regard to projections, for instance, the law specified that:—

"Every coping, cornice, string-course, facia, window-dressing, portico, porch, balcony, verandah, balustrade, outside landing, outside stairs and outside steps, and architectural projection or decoration whatsoever, and also the eaves, barge-boards, and cornices to any overhanging roof except the cornices and dressings to the window fronts of shops and except the eaves, barge-boards, and cornices to detached and semi-detached houses, and to other dwelling-houses in which the party-walls are corbelled out so as to project 4 in. beyond such eaves, barge-boards, or cornices, shall be of brick, stone, tile, artificial stone, slate, cement, or other fireproof material.

Every balcony, cornice, or other projection shall be tailed into the wall of the building, and weighted or tied down to the satisfaction of the District Surveyor, and no cornice shall exceed in projection 2 ft. 6 in. over the public way."

It was this Act that every architect and every building designer came up against whenever he attempted to design buildings in London, and there was an effective syllabus in regard to all those particulars. In consequence of this Act it would be quite impossible to build in the London streets structures like the Strozzi or Farnese palaces because of their projections; we have our wings clipped and we were confined to somewhat narrow limits. The Act would prohibit any such delightful group as that which still stands in Holborn, in Staple Inn, and every architect inspired with brilliant ideas had, after surmounting the difficulties of cost and the client's instructions, to bring everything before that benevolent tyrant, the District Surveyor, who applies the law, and the unbenevolent adjoining owner's surveyor. Visions of beautiful windows, the freshness in city life gained by shadowed eaves, as at Ipswich, of quaint half-timber work like that at Middle-row, or of soaring majesty—such as the New York skyscrapers—were quite impossible, and that half-timber work, so fascinating to the artist, was entirely prohibited. The District Surveyor, whom we love for his conscientious faithfulness, "cut all the patter" and applied the law. But the fact was that this beneficent enemy of jerry-building became a very ogre when one dealt with beauty, and could only refer one to the dreadful syllabus and to the necessity of applying to the County Council for any exceptions to certain of its provisions. There was incessant friction and conflict. He was not drawing any imaginary picture, for modern architecture in London had been a process of incessant conflict and friction between the ambitions of the designers and the stipulations of the law, and it would be an interesting investigation in the future to discern and illustrate the underlying legal obligations and the incessant resistance to them of artistic sentiment—of an artistic sentiment extraordinarily manifest—in all XIXth-century work—which this Act had created. In fact, among the arts and crafts work of modern times had to be inserted, this new art and craft of evading the building law.

There was the conflict of other doctrines from which we might derive a syllabus—the syllabus of taste which reflects current culture, or the social conditions reflected in our buildings; but the constructional syllabus ruled. The social syllabus, portraying growth of luxury and wealth with amenity, began with the day when the merchant lived over his counting-house in the City, and progressed to the time when he migrated to the aristocratic districts of Bloomsbury-square and Lincoln's Inn. Another generation passed and the social centre shifted to the stucco mansions of Belgravia, the artistic brotherhood flits to the hilltops of Hampstead and flatland, and finally, in our own time, the advent of the motor-car is turning London into a garage and a restaurant. London is itself a museum of any number of different influences from which we could construct a social as well as a constructional syllabus.

There was a certain topsy-turveydom in applying an architectural syllabus to London in the ordinary way, because neither Byzantium, Greece, or Rome apply to us. Such a syllabus was only apparently historical; it was not really so; it was superficial in the sense of its being concerned with the æsthetic idea, not with the real architectural fact. He could find a Greek building in London in the British Museum, and he could find Roman and Italian buildings, but they were imitations, and they did not hold a proper architectural place in the syllabus; while he would suggest an architectural syllabus which was constructional as well as historical.

In order to give a rough idea of what he meant by the constructional syllabus he would rapidly run through, on the one hand, the constructional development of London, and if they put on the other hand the historical development of London, between the two he hoped they would find the guidance needed. Constructionally, the first London—the first element in the syllabus, was the London of wattle and mud. The first stage was soon passed, and we came to the second period—*i.e.*, to rubble London, when walls were of rubble stone with a large amount of crude mortar. This rubble London was Gothic London, Mediæval London, the London of the Tower and cathedrals. Rubble London—rubbish-built London—was followed by wooden-framed London, which lasted all through the Middle Ages well into Queen Elizabeth's time. Henry VIII. had a great wooden palace, Nonsuch, on the south side of the river near Twickenham, and Queen Elizabeth had left behind, at Staple Inn, those well-known wooden fronts. Wooden-framed London was wiped out by the Great Fire of 1666, and we were brought to the fourth item in the syllabus—*i.e.*, brick London, *post* 1666, covering the Carolean period and Queen Anne. This London had to be associated with stone dressings, stone ornament, and the treatment of the stonework in connexion with the brickwork was different from the treatment of the stonework when it was in connexion with rubble masonry; it became finer and more interesting—it became, in fact, masonry of a fine order, so that we were shortly face to face with the next phase—*i.e.*, Portland-stone London, when it was felt that all architectural dignity lay in a finely-finished, smooth-faced stone wall. To this period belonged St. Paul's Cathedral, and at a later date Somerset House, and around and between them we could group all the fine buildings of the period, finding them universally faced with Portland stone. Stucco London followed—very large and in many ways interesting, but stucco for all that. It was the architecture of the Regency and the material of Carlton House-terrace. We were getting near our own time, and one felt a lingering sympathy with the stucco movement still. And finally we came to the last item of the syllabus—*i.e.*, Building Act London, or modern London. He must not omit as an important element in Building Act London what he ought to call *post*-cholera London—sanitary London, and he did not think he was far wrong in saying that the greatest interest of modern London to future ages would be the drainage system and the remarkably beautiful plumbing and drain-laying in lasting materials.

The lecturer then showed a large number of lantern slides of London buildings in illustration of his remarks, and of the different periods referred to, and, in conclusion, he said the constructional syllabus still held, but it was changing and altering with the advent of ferro-concrete, and we might be on the eve of new changes. He ventured to hope that our accidental inspirations might not come to an end, that our love for the study of antique architecture would still flourish, but that there would still remain among us those characteristics of the English school which had made the XIXth century so important in its freedom and originality in dealing with building. London had nothing at the present time to fear from a comparison with Continental capitals, although Berlin is making very rapid strides after us. The law of construction was all that could be defined, and let artistic liberty have as much freedom and as much money as could possibly be allowed it.

On the motion of the Chairman, a hearty vote of thanks was accorded to the lecturer.

ALEXANDER THOMSON TRAVELLING STUDENTSHIP.

THIS Studentship, which is awarded triennially and is of the value of 60*l.*, has this year been awarded to Mr. Jas. Bennet. The subject on this occasion was a design for a bridge, and in addition studies of the Orders and from the antique were asked for in terms of the conditions governing the competition, of which the Glasgow Institute of Architects are the trustees. Only three competitors sent in drawings for the prize, but it is gratifying to know that the work of the winner is good enough to have won against a larger number. Mr. Bennet's design is the only one that at all conforms to the general conditions governing the competition, which requires work based on the principles so ably exploited by the late Alexander Thomson, and is a very well conceived design shown by admirable drawings. He has adopted a steel construction with

exposed lattice girders, these latter, perhaps, rather lacking in depth for their span, supported by quasi-Doric columns flanking piers, the whole in five spans with quarter circle colonnades and pylons at either end. The perspective view, though a river drawing, scarcely does justice to the design as it emphasises the comparative lowness of the spans.

The other two competitors, while showing some good studies, are lacking in a grasp of the essentials of the problem. One of them has devoted much more time and thought to designing the buildings to which the bridge might form an approach than to the bridge itself, and the other has been led away in an attempt to emphasise the piers of the bridge, and has divided his bridge at the ends by twin arches which might be very convenient for controlling traffic, but it is scarcely a monumental treatment of a roadway. Both have adopted a free Renaissance treatment, which, as mentioned, does not conform to the general conditions.

GENERAL NEWS.

Professional Announcement.

The partnership which has existed for many years between Mr. Keith D. Young, F.R.I.B.A., and Mr. Henry Hall, F.R.I.B.A., has been dissolved as from December 31, 1911, owing to the retirement from practice on account of serious ill-health of Mr. Hall. As from January 1, 1912, Mr. Young has taken into partnership Mr. Alner Wilson Hall, A.R.I.B.A., the son of Mr. Henry Hall, who was articled to Mr. Young, and some time ago qualified himself by examination as an Associate of the Royal Institute of British Architects. The name of the firm, therefore, will not be changed.

New Australian Offices.

It is stated that Mr. A. Marshall Mackenzie, A.R.S.A., architect of the new Marischal College at Aberdeen, has been selected by the Australian Government to design the new offices of the Commonwealth in Kingsway.

International Archæological Congress, Rome.

The third meeting of the International Congress will be held in Rome, on October 9-16. Amongst the sections are those for prehistorical, Oriental, Early Hellenic, and Etruscan, and Italian archæology; Greek and Roman antiquities; the history of classical art; ancient topography; Christian archæology; and the organisation of archæological work. Letters and inquiries will be received by the General Secretary of the Ordinary Committee, Professor Lucio Mazini, Direzione-Generale di Antichita e Belle Arti, Piazza Venezia, 11, Rome.

Mr. Pierpont Morgan's Art Collection.

The Board of Education announce that the gradual withdrawal by Mr. Pierpont Morgan of the collection exhibited by his kind permission on loan at the Victoria and Albert Museum began with the removal of the enamels on Monday, February 5. No definite arrangements for the withdrawal of any other part of the collection have as yet been made, but it is anticipated that the next portion to be removed will be the collection of silversmiths' work.

The London Society.

A proposal has been made to establish a Society under this title with the object of advancing the practical improvement and artistic development of London, and a preliminary meeting will be held at the Galleries of the Royal Society of British Artists, Suffolk-street, W., at 8 p.m., on the 9th inst., with a view to its inception. Sir Aston Webb, C.B., C.V.O., R.A., has promised to preside.

Designs for Mural Painting.

The Committee, of which Mr. D. S. MacColl is Chairman and Mr. Charles Aitken and Mr. Wilfrid Walter as joint Hon. Secretaries, formed to promote the practice of mural painting in schools, churches, hospitals, and other public institutions, more especially by young artists and students, will hold a competitive exhibition of designs at Crosby Hall, Chelsea, in the latter part of May.

R.'s Method of Perspectives.

Mr. Roberts, author of R.'s Method of Perspectives, is again showing and demonstrating his method to London architects. He has developed his original idea of perspective-squared paper, new points, etc., making the diagrams useful not only for making finished perspectives, but for rapidly roughing-out any details to scale in perspective. Mr. Roberts is willing to demonstrate his method during his year's stay in London, and appointments can be made through his home address, 51, London-road, Ipswich.

The Rougemont Estate, Exeter.

This estate has just been sold, and passes into private ownership again. Portions of the city and castle walls of Exeter are within the boundaries of the estate.

The Florentine Academy of Arts.

The Florentine Academy of Arts has conferred the distinction of Honorary Academician on Count Plunkett, Hon.A.R.I.B.A.

COMPETITION NEWS.

Stafford Public Library.

We are advised that the assessor, Mr. H. T. Hare, F.R.I.B.A., made his award yesterday (Thursday). We hope to announce the result in our issue of next week.

East Sussex Hospital, Hastings.

The premiums in this competition were 125*l.*, 75*l.*, and 50*l.* Mr. Edwin T. Hall, F.R.I.B.A., has now given his award, which is as follows:—First premiated design, Messrs. John Saxon Snell & Stanley M. Spoor, 37, Maida-vale, London, W.; second premiated design, Messrs. C. K. & T. C. Mayor, 41, John Dalton-street, Manchester; third premiated design, Messrs. Adams & Holden, 28, Woburn-place, Russell-square, W.C. The designs are to be exhibited at the Drill Hall, Middle-street, Hastings, from February 13 to 15.

The public exhibition of designs is, by request, to be extended to Saturday, the 17th (five days in all). The hours will be from ten to five, and on the last day (Saturday) from ten to seven. The change is made for those who may only be free at the end of the week.

Scottish National Memorial to His Late Majesty King Edward VII.

It has been decided that this memorial is to be placed in Edinburgh, and, subject to the approval of his Majesty King George V., it is to be associated with the Palace of Holyrood in the form of a suitable memorial erected in or near the Palace grounds, with appropriate public accesses. The Committee, some weeks ago, resolved that a number of architects in Scotland should be invited to send designs for the proposed memorial, and the following gentlemen have accepted the invitation, viz.:—Sir Robert S. Lorimer, A.R.S.A., F.R.I.B.A., Edinburgh; Mr. G. Washington Browne, R.S.A., Edinburgh; Mr. Hippolyte J. Blanc, R.S.A., F.R.I.B.A., Edinburgh; Mr. John J. Burnet, LL.D., F.R.I.B.A., Glasgow; Mr. Henry E. Clifford, F.R.I.B.A., Glasgow; and Mr. Robert J. Macbeth, F.R.I.B.A., Inverness. It is left to competitors to suggest a site in the neighbourhood of Holyrood, and also the form that the memorial may take, but it is desirable that it should include a statue or other personal representation of his late Majesty. The designs submitted are to be illustrated by a model and drawings, and these are to be lodged with the Town Clerk by March 30 next.

CORRESPONDENCE.

The Bonâ-Fides of the Competitors for the R.I.B.A. Studentship.

SIR,—Many will have read with interest and pleasure your remarks last week concerning the bona-fides of the competitors for the R.I.B.A. Studentships.

As regards the question raised at the meeting to which you refer I know nothing, but you are right in your conjecture that this is not a case of isolated discontent.

Some of the students at South Kensington are members of the architectural profession, taking a course of study at the Royal College of Art, and no exception can be taken to their entering as competitors so long as the designs, etc., sent in, are entirely their own. But it is common knowledge that the Owen Jones prize has, in the past, been awarded to men who were not in and had no intention of entering the profession.

Under such circumstances one is justified in saying that the matter is one that does concern the welfare of our art.

No one will grudge an artist any prize he may wrest from this philistinic world, but the Owen Jones was founded for the study of architecture, "more particularly in relation to ornament and colour decoration," and was to be open to members of the architectural profession.

Would it not be better for the welfare of architecture as an art, and even for the art students and artists whom I propose to exclude, if the competition were restricted entirely to architects or students intending to become such?

For not until architects in general have a much finer appreciation of colour and its possibilities in relation to architecture than they have at present will much progress be made, and not till then will mural painters, artists, and craftsmen receive at the hands of our profession the recognition they deserve.

An important prize such as is the Owen Jones, reserved strictly for competition among architectural students only, would do much to further the study of colour and ornament among many who now, perhaps, feel that it is hopeless to compete against craftsmen who have trained and specialised in their subject for years. Wider interest would be aroused and many more entries result. Also, whether the splendid scheme with regard to the greater coherence of the competitors outlined in your leading article, is adopted or not, should not, in the particular case of the Owen Jones prize, far more attention be directed to complete schemes of colour, decoration, and ornament, in relation to architecture, instead of the fragmentary contributions—copies of isolated pieces of wall-paintings, mosaics, and stained glass, that usually receive the award?

H. S. FLEMING, A.R.I.B.A.

The Crystal Palace and the National Folk Museum.

SIR,—Will you kindly correct a "slip" which has occurred among your "Notes" this week.

I am one of the promoters of the scheme for a Folk Museum at the Crystal Palace, and I am the present Director of the National Museum of Ireland. Colonel Plunkett, formerly Director of the Dublin Museum, wrote lately in the *Times* in support of the Folk Museum project, and the writer of your "Notes" has—perhaps with some excuse—substituted my name for Colonel Plunkett's.

G. N. COUNT PLUNKETT.

[We have received a letter *re* the "Policy of the R.I.B.A." from "A Reader," but with no name or address. We shall be pleased to print the letter if "A Reader" will communicate with us.]

INTERCOMMUNICATION COLUMN.

Damp Plaster Wall.

SIR,—Could any of your readers inform me of the best way of treating the inside face of a very bad, damp (plastered) wall so that it will stand paint well? Q. S.

"Rotting of Floors."

SIR,—To prevent floors rotting under lino, sprinkle a layer of fine sand on the floor before laying the linoleum. This forms a minute air space and also absorbs any moisture that penetrates through the lino. Your correspondent is quite correct—it is the washing of the floor and the soaking of the water through the linoleum which causes the injury.

KERNER-GREENWOOD & Co.

EDITORIAL SUMMARY.

The leading article is entitled "Skeleton-Frame Buildings," and in the course of our comments on the regulations made by the London County Council we refer to some proposals of the District Surveyors' Association.

Notes (p. 142) include comments on: "The R.A. Lectures on Sculpture"; "Hints to Students"; "Dry Rot in Church Buildings"; "The R.I.B.A. Meeting-Room"; "The Institute Gold Medallist"; "Over-Elaboration of Plans."

A meeting of the R.I.B.A. was held on Monday, when the President delivered an address to students and Mr. Gerald Horsley made some criticisms on the designs submitted for the prizes and studentships. See p. 144.

The second Spring Visit of the Architectural Association this session took place on January 27, to the Regent-street Polytechnic. Some particulars of the visit appear on p. 147.

Professor R. T. Blomfield, A.R.A., delivered the first of his Royal Academy lectures on "Architecture" on Monday, taking as his subject "Architectural Drawing and Illustration," and dealing in the subsequent part of his lecture with Villard de Honnecourt. The second lecture was delivered on Thursday on "Some Draughtsmen of the XVIth Century." See p. 147.

Book Reviews (p. 149) include: "The Story of Ford Abbey"; "The Life of James McNeill Whistler"; "Costumes, Traditions, and Songs of Savoy"; "The Local Government Annual and Official Directory."

The second of the series of Carpenters' Hall Lectures on the "Arts Connected with Building" was delivered by Professor Beresford Pite on the 31st ult., the subject being "London: an Architectural Syllabus." Our report appears on p. 150.

The Alexander Thomson Travelling Studentship has been awarded to Mr. James Bennet. Some notes on his designs and the designs of the two other competitors are given on p. 150.

In Correspondence columns (p. 151) will be found letters on: "The Crystal Palace and the National Folk Museum"; "The *Bona Fides* of the Competitions for the R.I.B.A. Studentships."

The Monthly Illustrated Review of Construction (p. 153) contains: "New Buildings in Central Paris"; "Automatic Temperature Regulation"; "Heating, etc., McGill University"; "Testing of Materials of Construction"; and Notes.

The Building Trade Section (p. 157) contains: "National Federation of Building Trades Employers of Great Britain and Ireland"; "Bristol Master Builders' Association"; "Clay Excavating Plant, Warnham"; "Leicester Building Trades Employers' Association," etc.

An abstract of a paper on "Smoke Abatement," read by Mr. Lawrence W. Chubb, Secretary of the Coal Smoke Abatement Society, before a recent meeting of the Institute of Sanitary Engineers, is given on p. 161.

In our Law Reports (p. 165) will be found a report of the case of "Cable *v.* Lewis"—Muswell Hill Houses.

MEETINGS.

FRIDAY, FEBRUARY 9.

Royal Sanitary Institute.—Dr. Charles Porter on "The Duties of a Sanitary Inspector: Offensive Trades." 7 p.m.

Royal Institution of Great Britain.—Mr. J. Allen Harker on "Very High Temperatures." 9 p.m.

The Institution of Civil Engineers.—Lecture on "Steam-Turbines: Some Practical Applications of Theory," by Capt. H. Riall Sankey, R.E., M.Inst.C.E. 8 p.m.

Battersea Polytechnic (Illuminating Engineering).—Mr. J. S. Dow, B.Sc., on "Colour of Artificial Illuminants." 7.30 p.m.

Leicester and Leicestershire Society of Architects.—Mr. Beckwith A. Spencer (Royal College of Art) on "Italian Mural Decoration in the XIVth and XVth Centuries." Lantern slides. 8 p.m.

SATURDAY, FEBRUARY 10.

Clerks of Works' Association.—Twenty-ninth annual dinner, King's Hall, Holborn Restaurant. 6 p.m.

Royal Sanitary Institute (Meeting in the Board Room, Poor Law Offices, Shakespeare-street, Nottingham).—Discussion on "Local Public Health Administration and the Insurance Act," to be opened by Alderman T. J. Dabell, M.R.C.S., J.P., Chairman, Health Committee, Nottingham. 11 a.m.

MONDAY, FEBRUARY 12.

Architectural Association.—Mr. Paul Waterhouse on "Bridges." 7.30 p.m.

Royal Academy of Arts.—Professor R. T. Blomfield, A.R.A., on "French Draughtsmen of the XVIIth Century." 4 p.m.

Royal Sanitary Institute.—7 p.m.

The Institute of Sanitary Engineers (at the Royal United Service Institution, Whitehall).—Discussion on "Hospitals and Sanatoria and their Relation to Tuberculosis," to be opened by Mr. A. Alban H. Scott and Dr. F. C. Davies. 8 p.m.

Junior Institution of Engineers (Combined Meeting with the Architectural Association, at 18 Tufton-street, Westminster).—Paper on "Bridges," by Mr. Paul Waterhouse, M.A., F.R.I.B.A. 7.30 p.m.

The Incorporated Clerks of Works' Association (Carpenters' Hall, London-wall).—Paper by Mr. Arthur Robinson (Paripan Company) on "The Sanitary Decorative Finish of Buildings." 8 p.m.

TUESDAY, FEBRUARY 13.

Northampton Polytechnic Institute (Lectures on Illuminating Engineering).—Mr. S. Field on "The Chemistry of Gas Manufacture and Lighting." 7.30 p.m.

Institution of Civil Engineers.—Papers on "The Water Supply of the Witwatersrand," by Mr. D. Calder Leitch, M.Inst.C.E; and "Investigations Relatiting to the Yield of a Catchment-Area in Cape Colony," by Mr. E. C. Bartlett, M.Inst.C.E. 8 p.m.

WEDNESDAY, FEBRUARY 14.

Carpenters' Hall, London-wall (Lectures on Arts Connected with Building).—Mr. T. Stirling Lee on "The Sculptor's Craft" (demonstrated and illustrated). 7.45 p.m.

Royal Society of Arts.—Mr. Cecil Thomas on "Gem Engraving." 8 p.m.

Royal Sanitary Institute.—Dr. G. F. McCleary on "Methods of Disinfection." 7 p.m.

THURSDAY, FEBRUARY 15.

Carpenters' Hall, London-wall.—Sir R. Hanbury Brown, K.C.M.G., on "The Nile in English Harness." 8 p.m.

Royal Academy of Arts.—Professor R. T. Blomfield, A.R.A., on "Italian Draughtsmen of the XVIIIth Century, and Piranesi." 4 p.m.

Society of Antiquaries.—8.30 p.m.

FRIDAY, FEBRUARY 16.

Royal Sanitary Institute.—Dr. G. F. McCleary on "Elementary Statistics." 7 p.m.

The Royal Institution.—The Rt. Hon. Sir J. H. A. Macdonald, K.C.B., LL.D., on "The Road: Past, Present, and Future." 9 p.m.

Battersea Polytechnic (Illuminating Engineering).—Mr. J. S. Dow, B.Sc., on "Practical Lighting Problems." 7.30 p.m.

Edinburgh Architectural Association.—Associates' annual dinner. 7.30 p.m.

Glasgow Technical College Architectural Craftsmen's Society.—Mr. J. Muir on "The Management of Building Contracts." 7.45 p.m.

Institution of Mechanical Engineers.—Annual general meeting. 8 p.m.

Institution of Civil Engineers (Students' Meeting).—The Vernon-Harcourt Lectures on "Works for the Prevention of Coast-Erosion," by Mr. W. T. Douglass, M.Inst.C.E. 8. p.m.

SATURDAY, FEBRUARY 17.

Architectural Association.—Third spring visit, to the British Museum Extension. 2 p.m. at the building.

Aberdeen Architectural Association.—Mr. J. A. Ogg Allan on "The Educational Buildings of America." Illustrated. 7.30 p.m.

Junior Institution of Engineers.—Annual dinner, at the Hotel Cecil, London. Commendatore G. Marconi, D.Sc., President, in the chair. 7.30 p.m.

ENGINEERING SOCIETIES.

The Society of Engineers (Incorporated).

The first ordinary meeting of the present session was held on Monday at the Institution of Electrical Engineers, Victoria-embankment, W.C. The chair was first occupied by the retiring President, Mr. F. G. Bloyd, who presented the following premiums awarded for papers published in the *Journal* during 1911:—The President's Gold Medal to Mr. W. R. Baldwin-Wiseman for his paper on "The Administrative Aspect of Water Conservancy"; the Clarke Premium to Mr. T. J. Gueritte for his paper on "The Mechanical Installation and Upkeep of Permanent Way on Railways"; the Bessemer Premium to Mr. R. W. A. Brewer for his paper on "Two-Stroke Cycle Engines"; a Society's premium to Mr. E. Kilburn Scott for his paper on "Nitrogen Products made with the Aid of Electric Power"; a Society's premium to Mr. F. G. Woollard for his paper, entitled "Some Notes on Drawing Office Organisation." Mr. Bloyd then vacated the chair in favour of Mr. John Kennedy, the President for 1912, who was received with acclamation. A vote of thanks to the retiring President was proposed and heartily accorded.

The President then delivered his inaugural address, which dealt with shipbuilding and marine engineering.

A cordial vote of thanks was given to the President for his address, and the meeting terminated.

The Institution of Civil Engineers.

At the ordinary meeting on Tuesday the elections of new members, Associate members, and Associate, and admissions of students were reported. Mr. H. G. Williams, West Dulwich, S.E., was elected a member, and twenty-one Associate members were elected.

ILLUSTRATIONS.

The R.I.B.A. Tite Prize Drawings.

WE illustrate in this issue the Tite Prize design of Mr. Louis de Soissons and also the design by Mr. T. H. Chalkley, which received a certificate of Hon. Mention. We referred to these designs in our issue for January 26, and this week (p. 144) we give Mr. Gerald Horsley's criticisms made at the meeting of the Institute on Monday. Mr. De Soissons writes:—

"The dominant factors which have influenced my design for the Tite Prize are simplicity and dignity. Simplicity, because a Royal Exchange, a place where affairs of international importance are transacted, is in no way associated with a place of amusement. It must have repose and dignity. To obtain this effect it is essential the design should assume a monumental scale. From the monumental is but too easy a step to the error of the gigantic. The medium exists in the "grand manner" of tradition, and it is in this spirit I have endeavoured to render the design in so far as it is possible with the necessities of modern building. This medium is too often forgotten in contemporary work. Men, realising the incongruity of adapting the gigantic to modern conditions, are too apt to fall to the insignificant, and apparently forget the happy medium created by such forbears as Inigo Jones, Wren, and Vanbrugh in England, De L'Orme, Perrault, and Mansart in France. It is this tradition in design which has given its direction to my study of the problem."

Mr. Chalkley writes:—

"The dominant ideas which, it was considered, should govern a design for a Royal Exchange were that it should have dignity—representative of the city's political and civic importance—simplicity, because of its special use and purpose, yet so treated as to be a monument to the city's wealth and of the excellence of its craftsmen, artists, and sculptors.

The courtyard was planned circular in form, simple and appropriate, and producing, undoubtedly, the finest and grandest internal effect.

Dignity was given primarily by the plan—by the dome as a roof covering—the treatment of the vertical height in one Order; the unbroken entablature and by the studied gradation in the application of ornament that gives to the dome a rich appearance and treats the lower parts very simply.

A Royal Exchange is built for all ages and all classes of business men; it is an essential feature of a city which plays its part in the national and political life of the country, and it must contain within itself allusions to these things.

These thoughts were expressed by the various sculptured groups and panels in the courtyard, and the provision made for wall paintings in the arcade."

FIFTY YEARS AGO.

From the *Builder* of February 8, 1862.

Brussels "Palais de Justice" Competition.

THE Belgian Government selected designs from those sent in competition, by a Brussels architect, an Antwerp architect, and an English firm, Messrs. Green & De Ville; but in lieu of presenting the premiums offered have awarded greatly reduced sums. Endeavours are being made, we believe, through the Royal Institute of British Architects, to induce the Belgian Government to reconsider this very shabby and unjust proceeding.

MONTHLY REVIEW · *of* · CONSTRUCTION.

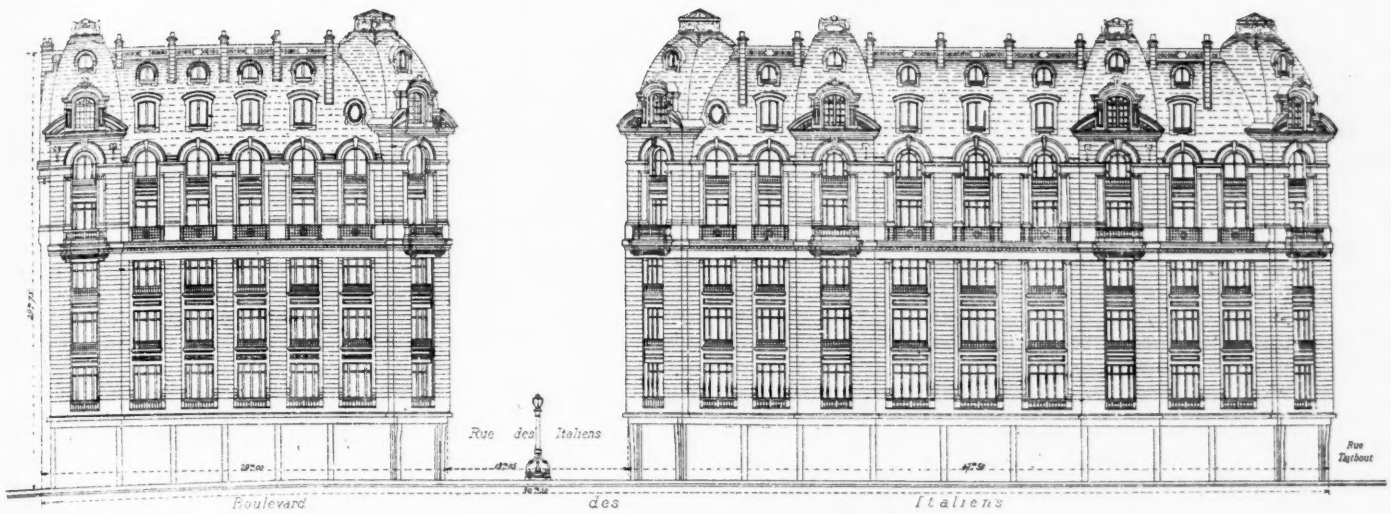


Fig. 1. Front Elevation of New Buildings.

NEW BUILDINGS IN CENTRAL PARIS.

SINCE the days of the Restoration the Boulevard des Italiens—then named the Boulevard de Gand—has remained "the boulevard" of Paris, having lost nothing of its former animation, notwithstanding the disappearance of some famed establishments which were popular resorts in the time of Balzac. Nevertheless it may be admitted that the architecture of the buildings leaves much to be desired, a point brought into relief by the large office buildings constructed of late by sundry insurance corporations, prominent among them being those of the New York Life and the Equitable companies. Further improvement of the boulevard from the artistic standpoint will result from the rebuilding operations now in progress between the Rue Taitbout and the Rue de Helder on the north side of the street. We are indebted to our contemporary, *le Génie Civil*, for the illustrations and particulars given of these interesting works in the present article.

General Features of the Project.

For some years past l'Urbaine-Vie Assurance Company have been acquiring one by one the buildings occupying the angle formed by the Boulevard des Italiens and the Rue Taitbout, with the intention of rebuilding the property and opening a new street from the boulevard to the *carrefour* at the end of the Boulevard Haussmann.

But the land requisite for the complete realisation of this project could not be purchased, and the scheme has been modified as shown in Fig. 2. Part of the land has been sold to *Le Temps* newspaper proprietors for the erection of new offices, and the remainder of the site, with frontages of 86·40 metres on the Boulevard des Italiens and 78·80 metres on the Rue Taitbout, will be occupied by new buildings and a private road, the Rue des Italiens, forming a thoroughfare for foot passengers and a cul-de-sac for vehicles. The island site at the right hand has a frontage of 47·50 metres on the boulevard, the new street is 13·05 metres wide, and the site at the left hand has a frontage of 29·00 metres on the boulevard, the other dimensions and general arrangement being shown by the plan. Fig. 1 illustrates the façades on the Boulevards des Italiens.

Although in the form of two blocks above street level, the buildings are connected by a continuous basement, with the average height of 5·50 metres, and in this respect resemble the new General Post Office buildings in London. In a situation where every square metre of land represents a value of several thousands of francs it is very important to utilise all available space. Consequently the new Rue des Italiens is carried by two series of reinforced concrete beams and a continuous slab of the same material, forming a spacious addition to the basement which will be divided up and rented to the occupants of shops on each side of the street.

The right-hand block of buildings occupies a site of 2,275 square metres, and the left-hand block one of 1,635 square metres, while the connecting basement and roadway take up the area of 1,200 square metres.

As will be noticed by the elevations in Fig. 1, the architectural features of the two blocks are practically uniform, the only material variations being those entailed by the regulations of the city authorities with regard to the height of roofs. The ground floor in each case is entirely devoted to shops, with the exception of the space necessary for entrances and lodges for the concierges. The right-hand block has three entrances, two on the Rue Taitbout and one on the Rue des Italiens, each with a passenger and goods lift. The left-hand block has only two entrances, both on the Rue des Italiens.

Fig. 3 is a drawing which shows the architectural treatment of the upper part of the façades and roofs.

Main Structural Features.

Each block will be erected first in the form of a complete steel skeleton of seven or eight stories according to position, extending from the foundations to the roof. The skeleton will afterwards be clothed by masonry walls, floors, and roof covering, as well as by enclosures for entrances and stairways. Fig. 4 is a half-section of the right-hand block illustrating the general construction.

The façades proper only start at first-floor level, for practically the whole of the ground-floor frontages will be left free for the large windows demanded in the present day for the display of goods, the only breaks in the wide expanse of glass being the entrance doorways and the covered stanchions of the steel frame. Having in view this inexorable demand on the part of business people, the architect has deliberately regarded the façades as non-existent up to first-floor level, and has strengthened the main stanchions below that level so as to carry the loads transmitted from the upper part of the structure.

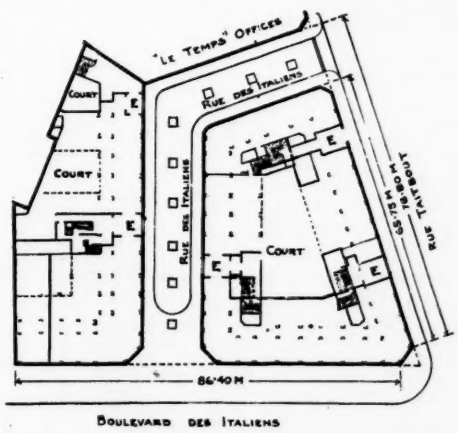


Fig. 2. Plan of New Buildings and Street.

Above the first floor the stanchions rise to the roof, their dimensions being decreased from point to point. Some of the stanchions are of H and others of J form, and between the flanges descend the rain-water pipes, and provision has been made for the accommodation of other pipes and conduits, also between the flanges. In addition to the main stanchions, there are others for the support of stairway and lift enclosures as well as for interior partitions to be built later in accordance with the requirements of occupiers. The roof frame and covering consist of steel principals with timber rafters, an insulating lining of pulverised cork, and lathing covered with slates. The crest of the roof is formed of timber framing covered with zinc.

It should be noted that neither of the buildings will be finally completed until tenants have been secured for the various floors. The first stage of the building programme simply involves the construction of a steel-framed masonry shell leaving each story in the form of one large apartment with no interior partitions but the walls of light wells and stairway and lift enclosures. The second stage will include the establishment of interior partition walls and fittings in accordance with the needs of private residents or business firms, and the floors have been designed so that they will be able to sustain the weight of partition walls wherever placed. Provision has been made for carrying away waste water from baths and sinks in any part of the building, and numerous ducts have been included to serve the purpose of chimneys or ventilation shafts as may hereafter be found requisite.

Bearing in mind the two successive phases of construction, the architect came to the conclusion that a steel skeleton would be more convenient than one of reinforced concrete, and consequently limited the employment of the latter material to the construction of retaining walls and the supports and decking for the roadway and footpaths of the Rue des Italiens.

The principal court of the right-hand block will be covered, as shown in Fig. 4, and windows above the covering will admit light and air to the ground floor of the surrounding building. The courts of the other block are similarly treated, and the light wells descending to the sub-basement are protected with glazed roofs and louvres for ventilation purposes.

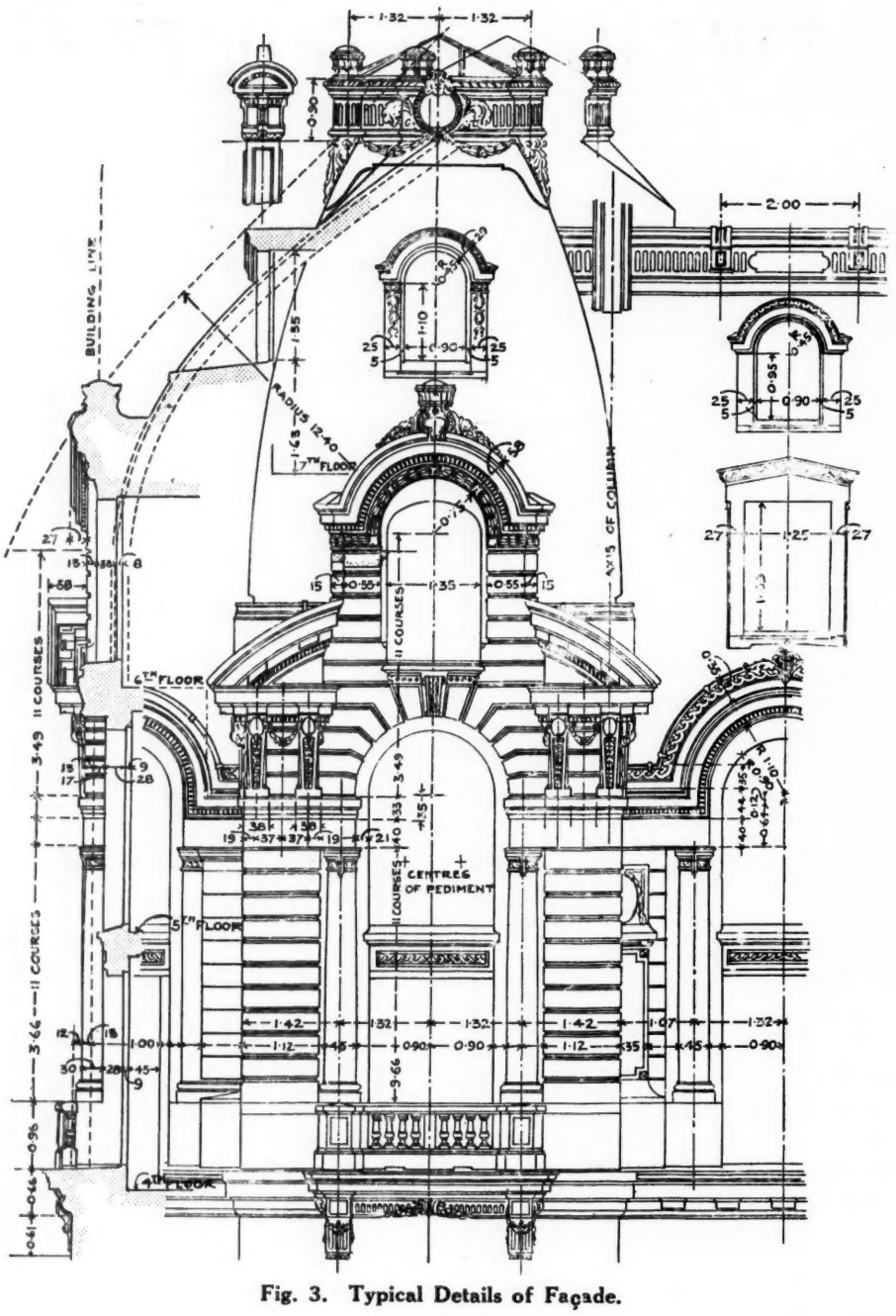


Fig. 3. Typical Details of Façade.

Construction of the Rue des Italiens.

This new street to which access can be gained by vehicles from the Rue Taitbout end only and by pedestrians from either end is formed by a decking of reinforced concrete carried by longitudinal and transverse beams supported on columns of the same material. The transverse beams are stiffened by brackets projecting from the columns, and providing support for an arched ceiling to the space beneath the roadway. Fig. 5 is a half-section showing the details of construction. The roadway proper consists of a foundation bed of concrete, a layer of asphalt, a bed of rough concrete, and asphalt paving. Along the centre line of the street a row of standards serve for the support of electric lamps, and at the same time provide outlets for the escape of air from the sub-basement. Between the reinforced concrete and steel columns on each side of the street there is a gallery for the reception of pipes and conduits. The galleries are to be used only by the employees of the proprietors, and in consequence the space beneath the roadway is only accessible from the sub-basement. The reinforced concrete framework and decking was calculated for the superimposed load of 4,000 kilogrammes per square metre on the roadway, and 800 kilogrammes per square metre on the foot pavement.

Progress of the Works.

Early last year the Rue des Italiens was opened up at the Rue Taitbout end, and the offices of *Le Temps* were built. During July the contractors were placed in possession of the entire site, but, owing to a strike, were unable to commence the work of demolishing the old buildings until the middle of September. Three months later 45,000 cubic metres of earth had been excavated, and the trench was cleared to sub-basement level. The foundation blocks for the columns were next executed in reinforced concrete, and before the end of the year the building contractors commenced the erection of a large double derrick commanding one-half of the site, the other half being equipped with timber staging carrying a platform on which was mounted a travelling crane. To the two derrick towers, 43 and 47 metres high, respectively, two pivoting masts were connected at the top by horizontal rods, each mast carrying a horizontal arm pivoting with it and commanding a radius of 20 metres at any height up to 30 to 35 metres, as required, above street level. Materials are brought to the site and unloaded directly by the first derrick, which delivers them to the site of work in hand, or deposits them at a point whence the second derrick can transfer them to staging built over the foot pavement of the boulevard. Ultimately the second derrick will deliver materials direct to the workmen in the Rue des Italiens, as soon as the new street is accessible by waggons.

Good progress has been made with the reinforced concrete work generally, and at the present time concrete is being deposited in the moulds erected along the entire course of the new street.

It is hoped that the first stage in the construction of the two blocks of buildings will be completed before the end of this year, and that the interior walls, partitions, and fittings, will be added soon after, so that tenants may take possession of premises arranged to their individual liking during the early part of 1913.

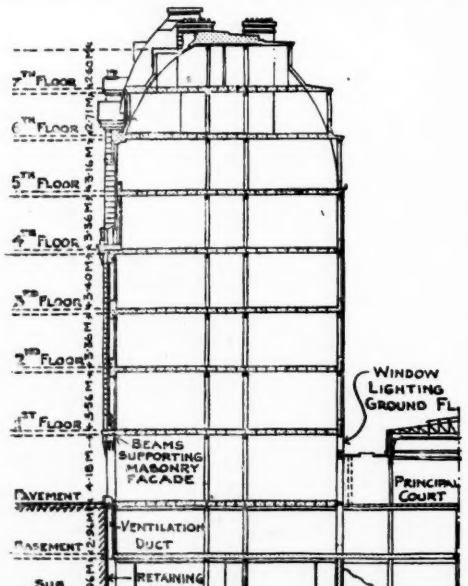


Fig. 4. Half Vertical Section of Right-hand Block.

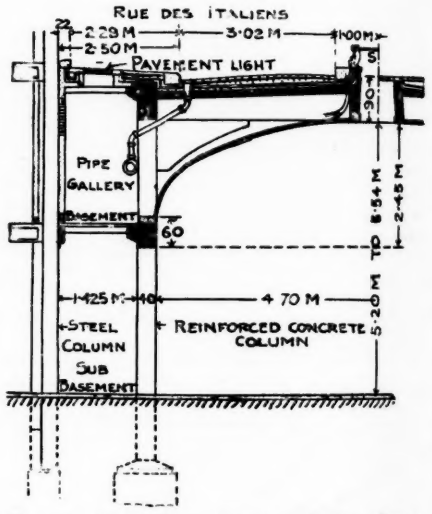


Fig. 5. Half Cross-Section of New Street and Basement.

Architect and Contractors.

The whole of the works were designed for the Compagnie l'Urbaine-Vie, and their execution is being superintended by M. Edouard Arnaud, Architecte Diplômé, M.Soc.Ing.Civ.(France) and Professor of Architecture at l'Ecole Centrale, Paris. MM. Fossard & Lesieur were contractors for the demolition of the buildings swept away, and the work of excavation was entrusted to MM. Laubeuf & Lécluse.

The steelwork for the right-hand block is in the hands of MM. Moisant, Laurent, & Savey, and the masonry contractor for the same block is M. Gilardi.

MM. Baudet & Donon are the contractors for the steelwork in the left-hand block, the masonry contractor being M. Devillette.

The construction of the roadway and other reinforced concrete work was allotted to M. Pradeau, licensed contractor under the Hennebique system.

The magnitude of the works described may be gauged to some extent by the fact that the purchase and demolition of the old buildings, and the construction of the new blocks and street will involve an outlay of about twenty-eight million francs.

AUTOMATIC TEMPERATURE REGULATION.

AT the annual general meeting of the Institution of Heating and Ventilating Engineers (Incorporated) on Tuesday a paper on "Automatic Temperature Regulation" was read by Mr. Herbert A. Jones. In the course of his remarks he said :—

"In this country the question of automatic temperature regulation has up till quite

recently failed to arouse interest on the part of owners of buildings, their architects, or consulting engineers, although such systems are in extensive use in the United States, Canada, and other countries, and are there regarded just as much a necessity in the equipment of a building as the heating system itself. This lack of interest is probably due to the fact that as compared to America we do not experience anything like the extremes of variation in temperature which Americans do, and this has generally been the reply one has received when seeking to interest people here in a means of automatically controlling temperatures. With such a reply the expert or consulting engineer considers that he has finally settled the matter. If, however, he looked carefully into the subject he would find that automatic control was just as much a necessity and as desirable here, in spite of the fact that we do not get great variations of outside temperature. Those of you who have been in the United States and Canada have probably been struck with the comparative comfort with which you could withstand the extreme cold of their winters; this is due to the dryness of the air. On the other hand, you have all met the American who complains that he cannot keep warm here in winter. These experiences are proof that small extremes of temperature in a climate that has large extremes of humidity, or variations in the amount of moisture in the air, are possibly more uncomfortable to experience than great extremes of temperature where the humidity is more constant.

The subject of temperature regulation is frequently confounded with ventilation. The latter deals with the supply of fresh air, while the former controls the temperature and prevents the rooms of a building from becoming too hot or too cold. The advantages derived from temperature regulation are twofold :—

First.—By keeping the temperature of a building (say, a school) at, say, 60 deg., all waste of fuel is prevented, and consequently a considerable saving of money is effected. Hundreds of pounds have been wasted in a single school by overheating it and securing a cooler temperature by opening the windows. Every particle of excess heat which goes out of the windows is an actual waste of public money. If the outdoor temperature is 30 deg., it will require 30 deg. of heat to bring the schoolroom temperature up to 60 deg. If, however, the outdoor temperature is 50 deg., only 10 deg. of heat are required to ensure the comfort of the schoolroom. A reliable system of temperature control will furnish the exact amount of heat required and avoid all excess consumption of fuel, and consequently save money.

Secondly.—By keeping the classrooms at an even temperature the health and comfort of teachers and pupils are promoted. A classroom that is too cold causes physical discomforts which may result in ill-health. A classroom that is too hot is even worse. The average teacher will resort to an open window for relief. The draughts from these windows are certain to bring on coughs and colds, which only too frequently end in throat and pulmonary troubles. The cause of education is as much promoted by hygienic surroundings and physical comfort of pupils as by teachers and text-books. Hence automatic temperature regulation for schools is becoming regarded by the highest experts in this country as a necessity.

Temperature regulation of buildings was attempted as far back as sixty years ago, and, of course, means the controlling of the source of heat by means of a thermostat placed on the wall of the room heated. The word "thermostat" literally means a heat regulator, and whatever it is and on whatever principle it works it is a thermostat. The records show that thermostats have been made since the middle of the XVIIIth century, and many of the most renowned scientific minds have attempted to solve the problem. The want of success in most systems has been due to their feeble power and because they were not adaptable to all conditions.

An efficient system of automatic temperature regulation should be able to control between close limits (1 deg. Fahr. is usually fine enough) the temperature of any room, hall, or corridor; it should open or close the valves of the heating system, whether that be by steam, hot water, or gas. The action of opening or closing should be definite and prompt, as particularly in the case of steam valves; sluggish movement of partial closing causes "wire drawing" and early destruction of the valve seats. In addition to this, it should be capable of operating ventilators and starting fans, and so perfecting the ventilating system. Beyond this, the system should by its cumulative effect exercise a direct control and economy in fuel at the source from which the heat is generated.

The apparatus, and more particularly the thermostat itself, should be of good design, thoroughly sound construction, and capable of continuously acting accurately and definitely under all conditions of temperature with practically no attention. A proper system should be capable of being applied to existing systems of heating without material alteration, and then to give the full advantage as regards control of temperature, although, to get the additional advantage of economy in fuel, modifications at the source of heat may require to be made.

Very little thought is necessary to arrive at the definite conclusion that it is not possible to devise a thermostat for the purposes above described which has sufficient inherent power to perform the operation of opening and closing valves, dampers, etc., and it will therefore be found that all systems consist of thermostats which are really combined instruments, which one can term relays, in that the thermostatic strip or control element, or the thermometer in an electric system, is made to control the operation of a compressed-air, vacuum, or electric system, by which means the valves are actually controlled.

In giving a brief description of various systems with which I am acquainted, or have particulars of, I shall only refer to those which can properly be described as attempting to give temperature regulation, and this I define as an apparatus which, fixed in the position where it gets an average temperature, is affected by the same, and controls some distantly-placed valve or other mechanism through which the source of heat passes. In passing, however, I would say that there are several ingenious stoves and water-heaters which combine a thermostat with the heating apparatus. It is obvious, however, that these are heat regulators, and cannot hope to regulate the consequent or surrounding temperatures.

The following are some of the systems of temperature regulation at present on the market :—

The "Johnson" system.
The "Powers" system.
The "Nuvacuumette" system of Messrs. Ashwell & Nesbit, Ltd.

The above use either compressed air or a vacuum for the main operation of valves, etc.

The "Fournier" system, working by the pressure of saturated vapours.
The "Grundy" system, this being an electric system."

The author then described the systems referred to. In dealing with economy he said :—

"That a system of automatic temperature regulation in which, besides the room temperature being regulated, the boiler-furnace draft is regulated also in accordance with requirements, is economical can readily be seen from a simple calculation :—

The average outside winter temperature is about 40 deg. Fahr.; if 70 deg. Fahr. is the desired room temperature, then the apparatus for heating raises the temperature 30 deg. Now, it is well known that the expense of fuel is in direct ratio with the increase of the inside temperature. In other words, if the outside temperature be at 40 deg. Fahr. and a room is raised to 55 deg. Fahr., it will take a certain amount of heat. If the temperature be raised to 70 deg. Fahr., or another 15 deg., it will take twice as much heat, or fuel, to keep the room at 70 deg. Fahr. as it did at 55 deg. Fahr.

If 70 deg. is a comfortable temperature, let us suppose that the temperature be raised to 73 deg. unnecessarily. Seventy degrees is 30 deg. above 40 deg., and 3 deg. would be one-tenth added; consequently to keep a room at 73 deg. instead of 70 deg. requires an expenditure of 10 per cent. more fuel.

Let us suppose that a room be kept, unnecessarily, at 75 deg.; there is then a waste of 16·6 per cent. of fuel, which is a great extravagance, and yet many rooms in buildings here are kept at this figure or above. At 75 deg. Fahr. a person becomes uncomfortable, and the tendency is then to open windows, conducing to further waste.

Experience has shown that these calculations are verified in practice, and that in many cases the waste is greater than shown above."

HEATING, ETC., McGILL UNIVERSITY, MONTREAL.

THE following is an abstract of a paper read at the ordinary meeting of the Institution of Civil Engineers on January 30 by Mr. R. J. Durley, B.Sc., M.Inst.C.E., on "The Central Heating and Power Plant of McGill University, Montreal."

The paper describes the arrangement and equipment of a central heating plant, combined with an electric light and power station, designed to serve the various buildings of McGill University. Although only of moderate size, the installation is of interest on account of the somewhat severe climatic conditions and the unusual nature of the service. Attention is called to the fact that the economic possibilities of such a station depend very largely on the relation between the demand for heat and that for electric current. The University buildings were, up to 1908, heated individually by their own steam or hot-water equipment, and took current from the local electric supply company. The coal used for the heating service was necessarily of an expensive kind, and the cost of current was rather high. Economy and improvement in service, therefore, were sought by utilising cheaper coal in a central boiler plant and heating the various buildings from one source, employing for this purpose as far as possible the exhaust steam from electric generating sets. The buildings which will ultimately be served have a total volume of about 7,570,000 cubic ft.; they contain 81,000 sq. ft. of direct-radiation heating surface, need 185,000 cubic ft. of warmed air per minute for ventilation, and require as a maximum about 475 kilowatts for light and power. The greatest demand for steam for heating and ventilation for all the buildings in cold weather would be about 30,000 lb. per hour. The station as at present working supplies current to eleven buildings and heat to five, and the heating service will be extended to all the buildings as opportunity serves. A brief discussion of the systems of heating and ventilation in general use in Canada for large buildings, and a description of the nature of the demand for steam and current for the University purposes, is followed by notes as to some of the problems arising in the design and construction of underground piping systems for steam and hot water.

The McGill power-house itself is not of an unusual type, its equipment including four water-tube boilers, three steam-electric generating sets, the necessary heaters and auxiliary machinery, and the ordinary apparatus for the switchboard and electric accessories. The heat distribution to the buildings being largely by means of forced-circulation hot water, as well as by steam, the heaters and circulating pumps are installed in the engine-room, and are at present capable of supplying hot water to 60,000 sq. ft. of direct-radiation heating surface. Means are provided for obtaining a record of the heat delivered to the heating systems of the various buildings. The electric distribution is by underground cables throughout, the cables, as well as the heat-distributing pipes, being carried partly in tunnel and partly in conduit. Secondary heaters have been installed in two of the buildings in order to avoid the expense of renewing their existing heating pipes and radiators. The paper includes a description of the methods of operation adopted and the systems of temperature regulation employed, together with some notes as to working costs.

TESTING OF MATERIALS OF CONSTRUCTION.

THE Watt anniversary lecture of Greenock Philosophical Society was delivered recently in the Watt Museum Hall by Mr. James T. Milton, M.Inst.C.E., etc. The subject of Mr. Milton's lecture was "The Testing of Materials of Construction," with special reference to mechanical engineering. The importance of systematic testing of materials, he said, is now more than ever realised. An international association has been established in the hope of attaining international agreement in regard to methods of testing, and an engineering standards committee in this country has successfully standardised specifications and tests of many structural materials. Systematic testing resolves itself directly into two branches; the first may be called scientific, and consists in the determination of the various properties of different kinds of material; the other is devoted to what may be called commercial or acceptance tests. It is this latter system to which the labours of the Engineering Standards Committee have been directed with such excellent results, their specifications for the acceptance tests of nearly all structural material being universally accepted in this country. All the straining actions which come upon constructive material can be resolved into two kinds, acting either singly or in combinaton. These are direct stress, whether of tension or compression and stress of shear or distortion. When either of these stresses is applied to any material deformation takes place. If the stress is very low this deformation, called strain, is small, and it is found by experiment to be directly proportionate to the stress. With increasing stress, however, in ductile materials a point is reached at which the strain increases at a greater ratio than the stress, and in very ductile materials a further increase of stress produces an altogether disproportionate increase of deformation. The points at which the strain commences to increase at a greater ratio than the stress is called the limit of proportionality. Below the limit of proportionality the application of a stress produces the proportionate strain. If the stress is altogether relieved the strain disappears, the material returns to its original form and dimensions. If the stress is reduced, but not entirely taken off, the strain reduces itself also to the amount which would have been produced by the same stress being initially applied. In other words, the material is perfectly elastic. When a stress higher than the limit of elasticity is applied part of the deformation produced is permanent. It is certain that the limit of proportionality and the limit of elasticity, as above defined, do actually fall near together; many consider these points to be coincident. It is argued by many engineers that as the material stressed below the limit of elasticity returns to its original dimensions all its qualities must also be unaltered, and therefore, as one application of a stress within the limit does not affect any of its properties, it must be able to withstand an unlimited number of applications of such stress without injury. It is this view which leads to the importance which is attached by some engineers to the inclusion of the determination of the elastic limit in the acceptance tests of materials.

Mr. Milton proceeded to say that each kind of material possesses its own peculiar properties of strength, ductility, hardness, etc. All of these can be measured quantitively, and when the material is of good quality the various measurements will be found to fall within comparatively narrow maximum and minimum limits. It must be noted that the properties actually determined in acceptance tests of ductile materials not only may be different from those required in the structure, but may be qualities which serve no useful purpose. Notable examples may be taken in the case of mild steel. This, when of good quality, subjected to a gradually increasing stress, will yield very considerably before finally giving way. A tensile test will give an extension of from 20 per cent. to 30 per cent., and a bend test will deform enormously without breaking. These properties of excessive deformation are of no use whatever in actual structures, yet if mild steel does not possess them it is rejected. That structural material can be reliable without excessive ductility is evident when we consider the satisfactory use of cast-iron for cylinders and other parts of steam engines. The reason why such excessive ductility is required in the acceptance tests of mild steel is not because it is useful *per se*, but because we know that good mild steel, while possessing properties which make it a useful constructive material, also possesses this ductility, and that if from any cause its ductility falls below its usual amount then doubts will immediately be raised as to its possessing, in due proportion, all the properties which made it useful and which are actually required. In conclusion, Mr. Milton confidently stated that not only has the systematic testing of the properties of constructional materials largely assisted in the developments of their manufacture, but without it such structures as the Forth Bridge on the land and the *Olympic* and *Titanic* on the sea would not have been possible.

CONSTRUCTION NOTES.

Cleaning Moulds for Concrete. A SIMPLE method of cleaning out moulds employed in reinforced concrete work is to blow steam on them from a hose-pipe. It is stated by an American engineer that steam is more efficient and more economical than any other medium for the purpose.

Standardisation of Vitrified Ware Pipes. THE draft specification prepared by the Standardisation Committee of the Institution of Municipal and County Engineers is now being considered by a Sectional Committee of the British Engineering Standards Committee, and objections have been raised in reference to certain of the proposals embodied in the draft specification. One of the proposals to which the Standardisation Committee attach considerable importance, and to which objection has been taken, is that dealing with the proposed form of socket.

After prolonged consideration and discussion the Standardisation Committee decided to suggest, for inclusion in the Standard Specification, a modified form of socket having, in their view, many advantages over the old form, including the following:—

(1) It is only necessary to push home the spigot to obtain a true invert and to ensure the pipes being concentric, whereas with the old form this result can only be attained by the exercise of the greatest care; in fact, it is comparatively rare to find drains and sewers, except those laid under the most constant and careful supervision, free from obstructive "lips" in the invert.

(2) The pushing home of the spigot also leaves a clear regular space all round for the jointing material, whereas with the old form the space is frequently very irregular, rendering it difficult to properly fill the joint.

(3) The new socket is stronger, and so designed that the greatest strength is at the point of greatest stress.

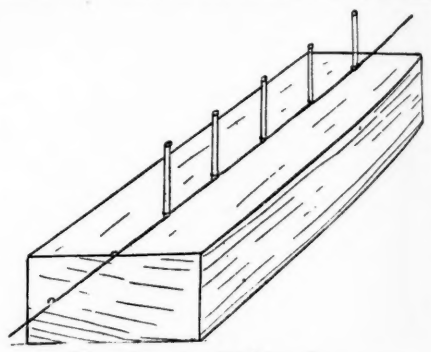
(4) There is less risk of jointing material entering the pipe and forming an obstruction.

(5) Less jointing material is required.

(6) There is less risk of the joint being disturbed after the pipes are laid and before the cement has set.

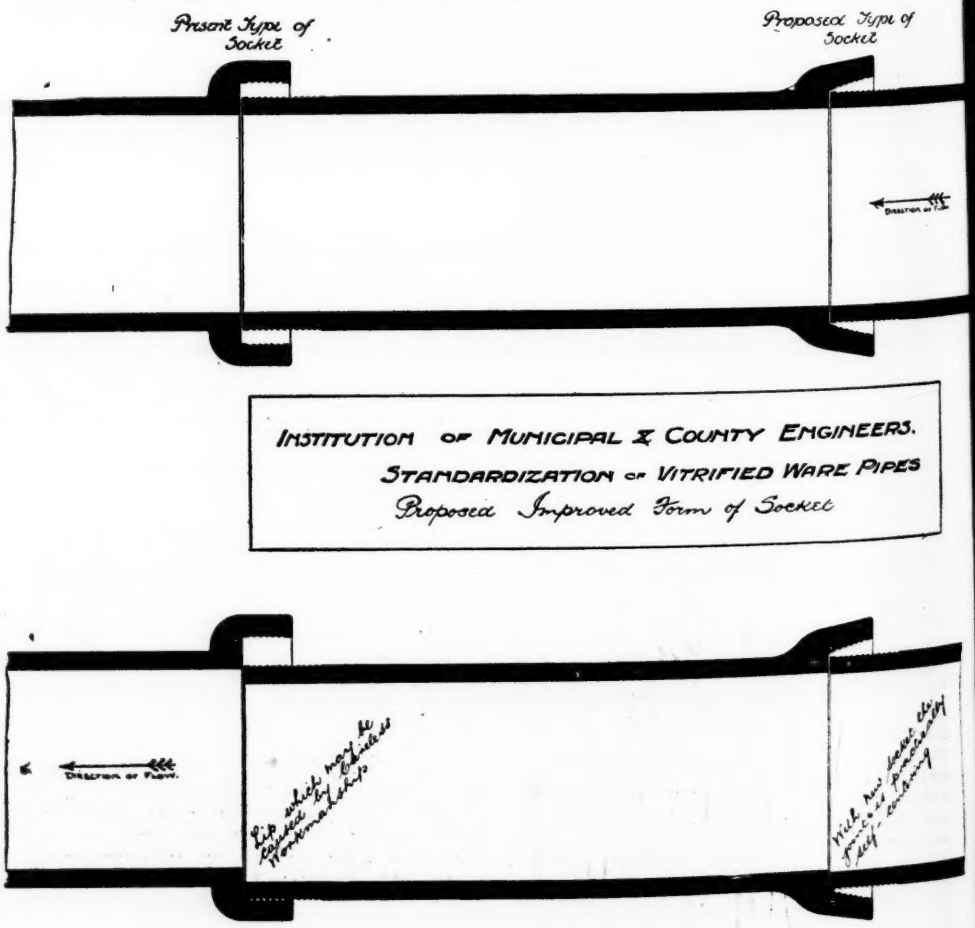
The Committee have asked the members of the Institution for their opinions as to which form of socket it is desirable should be included in the Standard Specification.

Spacing Gauges for Floor-Slab Reinforcement. IN a building erected at Milwaukee the contractor employed an ingenious method of forming gauges for spacing the steel rods constituting the reinforcement of the concrete floor slabs. The gauges were made by means of a template consisting of a wood block in which were set pieces of steel rod of the same diameter as those to be used for the reinforcement, the rods



Template for Making Spacers.

projecting 2 in. and spaced the same distance apart as that specified for the rods of the floor slab. The accompanying illustration is from an article by Mr. E. B. Murray in *Concrete*. A long piece of stout wire was then looped round each of the projecting rods in turn, starting at one end of the wire, and the succession of loops was continued, as far as requisite, by lifting off the wire and making other series of loops around the same pegs. In this way numerous spacing gauges were made for all the floors. The reinforcing rods were passed through the loops after the gauge wires had been secured in position and left in place so as to be embedded in the concrete.


Present Type of Socket
Proposed Type of Socket
Direction of Flow.
INSTITUTION OF MUNICIPAL & COUNTY ENGINEERS.
STANDARDIZATION OF VITRIFIED WARE PIPES
Proposed Improved Form of Socket
Direction of Flow.

THE BUILDING TRADE.

THE NATIONAL FEDERATION OF BUILDING TRADES EMPLOYERS OF GREAT BRITAIN AND IRELAND.

LAST week we published a report of the annual general meeting of this Federation, held at the Trocadero Restaurant, W., on January 31, under the Chairmanship of Mr. J. W. White (Sunderland). The following is a continuation of the report.

Provisional Sums in Quantities.

It was moved :—"That it be an instruction to the Council to inquire into the practice of inserting provisional sums of large amounts for quantities in school buildings, and to take such steps as may be deemed necessary." The speaker said he considered this would be a suitable time to inquire into the matter, because education authorities seemed anxious to ascertain if it was possible to reduce the cost of school buildings, and in his district they thought that it would be reduced if the practice of inserting large provisional sums were given up. One architect in their district regularly inserted in his quantities provisional sums which would form a third of the amount of the accepted tender, and the sums so included were generally expended without any competition, and, they considered, to the detriment of the builder who was carrying out the work. The builder had to wait an indefinite time before he could get instructions about ordering goods, and when he did so order the firm who supplied would take their own time as to when they delivered, and many cases of hardship often arose in consequence. If this matter were ventilated, and the education authorities could be shown that there was waste in this way of doing the work, the practice would soon be given up. The matter was connected with the question so often discussed amongst builders—that of specialists. If anything could be done by this means to prevent the unnecessary employment of specialists it would be a distinct advantage.

The seconder of the motion said they believed the practice complained of was detrimental to the building trade and opposed to public policy. These provisional sums ought to be kept as low as possible. Specialists came in who had no interest in the particular neighbourhood except to do the work, and they got as much out of it as possible. When the ordinary contractor asked to be allowed to compete he was told the work was to be done by a particular selected firm. If selection rather than open competition was going to be the guiding principle, then why should not a firm of builders who had given satisfaction in one job be given another without having to compete?

The resolution was agreed to.

Standard Wages and Cost of Living.

Mr. Townsley, on behalf of the Yorkshire Federation, brought up the question of standard wages and the increased cost of living with a view to asking whether the Council could get any reliable figures which could be utilised when the employers had to meet the arguments of the men regarding the increased cost of living. At present figures were published, but they varied largely. He moved that the matter be referred to the Council.

Mr. Rushforth (Grimsby) seconded the motion, and it was carried.

Goods to the Public at Trade Prices.

Mr. E. J. Brown (London) read a resolution which had been passed by a sub-committee of the London Federation pointing out that they considered the question of merchants and manufacturers supplying the public with goods on the same terms as the trade ought to be dealt with by the National Federation. The sub-committee had also approached the Federation of Master Decorators on the subject.

Mr. S. Smethurst (Oldham) said there was a movement on foot in all parts of England for obtaining preferential terms for those in the building trade as against the general public, and he believed that the building trade was the only trade in connexion with which outsiders could get equal terms. He moved that the matter be referred to the Administrative Committee.

Mr. A. S. Smith (Birmingham) considered the question one of growing importance. Many factory owners and others were employing men to do their own repairs, and they could buy their bricks and timber and firebricks and everything they wanted at the same price as the builder. If any means could be suggested by which this could be stopped it would greatly benefit builders.

Mr. J. B. Johnson (Liverpool) said the slate merchants were considering if they could give such a preference.

The matter was referred to the Committee to report on.

Alliances with Kindred Trades.

The Secretary read a letter which had been received from the Yorkshire Federation suggesting the expediency of a closer alliance with kindred trades with a view to joint action being taken for the protection of trade interests.

Mr. Townsley (Hull) remarked that at present there was a Confederation composed of three, if not four, national organisations of those engaged in the building trades, which comprised about 2,500 firms and included the plasterers and plumbers and slaters, and he believed the painters were in full sympathy, if not really allied to that body. It seemed to him if that organisation could in some way be attached to their own Federation it would very greatly strengthen their hands in the case of certain eventualities.

Mr. Hopkins (York) said that there was a danger of sub-contractors breaking away from the national body of master builders, and that he considered would be a disaster. The fact was that a large number of sub-contractors felt very insecure with reference to the money which should be paid to them. They had done work for the contractor and had not received payment. If the sub-contractors could get an assurance that the client for whom the work was really being done would be responsible it would be all right.

Mr. Matthews remarked that in Manchester they were adopting a form which would put the sub-contractor in a better position than before.

Mr. Cooke suggested that the best way to bring about organisation in the building trades would be to form an association in each centre and have separate committees to deal with each separate trade, and then those committees could bring forward their recommendations to the general body to be confirmed.

Mr. Rhodes observed that there was a feeling amongst the smaller trades that they would be swamped in any general movement because of the smallness of their numbers, but he thought they might get over the difficulty.

The matter was referred to the Administrative Committee to go into.

National Insurance Act.

Mr. F. Woods (Bolton), in moving that the Committee should continue to consider what future action should be taken with regard to the National Insurance Act, said he knew there was a disposition on the part of some employers to cease their opposition now the Act was passed. They in Lancashire did not agree with this, but they believed that by a steady and active opposition they would be able to place their considered judgment before the Commissioners, so that in the framing of their regulations the Commissioners might ameliorate those conditions which would harass the trade. They wanted each Association to send up its suggestions to the Administrative Committee.

Mr. Matthews (Manchester) seconded the motion, which was carried.

It was also agreed, on the motion of Mr. Davidson, to place on record the appreciation of the action of the President and the Secretary in relation to the unemployment part of the Bill.

National Board of Conciliation.

Mr. J. Storrs (Stalybridge) proposed that the questions of admitting builders' labourers to the Board of Conciliation scheme and that of expediting procedure in relation to appeals be left to be dealt with by the National Conciliation Board.

This was carried.

Mr. Storrs next reported that at a meeting of the Council the previous day it was agreed that it was desirable that there should be an affirmation of policy with regard to the question of the employment of unionists and non-unionists. Difficulty had been experienced in regard to the matter, and it was considered that the principle of freedom of employment should be affirmed.

Mr. A. W. Sinclair (Scarborough) said that the workmen were insisting that Rule I. of the Building Trades Conciliation Board was the beginning and end of the Conciliation Board's duties. That rule read as follows :—"The object of the Conciliation Board shall be to adjust all questions or disputes relating to hours of labour, rates of wages, working rules, and demarcation of work that may from time to time arise and be referred to them either by employers or operatives with a view to an amicable settlement of the same without resorting to strikes or lock-outs." In certain towns in Yorkshire trouble had arisen on the non-union question. In Leeds there was the case of a man with a rather heavy contract which had to be completed in a given time, and the men took advantage of that to say they would have certain men in their union or they would stop the job. In Leeds they had a local rule agreed to by the men and employers that there should be no stoppage of work until the dispute had been considered by a trade committee. But the men would not have the matter of union and non-union men referred to any committee, as they said it was their own business, and if they did not want to work with non-union men they would simply leave the job. The operative masons had now given notice of their intention to move at the Conciliation Board that questions of union and non-union workmen shall be excluded from the purview of the Board, and on that the employers and the men must come into direct conflict. In certain districts of the Midlands the men were now enforcing it, but in others they were not strong enough. Personally, he had always contended that high organisation by both the men and the employers was the best condition for carrying on business, but that where either one side or the other predominated they had the elements for oppression. If the resolution was carried by the men it would mean that they would make a stronger organised body for labour than the employers had attained to. If the matter had to come to a fight, now was not an unfavourable time, but if they waited until trade was better and the unions were more organised, then they would be in a worse position to deal with such an important question.

Mr. Smethurst (Oldham) said they were up against this question all over the country. If the resolution of the operative masons was rejected by the Board it meant a fight sooner or later, and he considered the Federation ought to be fortified with the considered opinion of the whole of the branches in England. It would be fatal to enter into a battle without knowing the forces behind them. Birmingham and Manchester and London would have to shut down, as did the cotton employers recently, and he would like it to be found out whether in the event of the matter being fought out the trade would stand together. The other side of the question was whether they would accept the resolution and say they would in

the future only employ trade unionists, and that was a very far-reaching issue. They had to look further than the mere temporary advantages it might bring them. He moved :—

"That the Administrative Committee be requested to circularise each branch Association through the Federation asking them to consider the question of the action of the trades union workmen in claiming the right to refuse to work with non-unionists, and to say if the settled opinion of their Association is that the right of the employer and the workman to employ whom they will or to work for whom they will shall, as far as possible, be maintained, and, if necessary, they will support the Federation if they desire to fight this issue. And it be an instruction to the Administrative Committee to issue a memorandum reviewing the position."

Mr. Moss remarked that one particular trade, which he would not name, had entered into an arrangement with the workmen by which the employers in the Association would only employ union men and the union men would only work for the associated employers.

Mr. Cooke said they tried that at Preston, and after a time they had a shoal of disputes. They had no assurance that the leaders of the men could enforce their decisions on the men whom they were supposed to control. He could give instances in Lancashire where plasterers had been ordered by their Executive to return to work and had absolutely refused to do so.

Mr. Sinclair asked if the unions could not stop the funds.

Mr. Cooke said he supposed they could, but the men seemed to find funds somewhere.

Mr. Matthews (Manchester) proposed :—"That this meeting is of opinion that the Board of Conciliation scheme comprises the consideration of all disputes involving the stoppage of work."

Mr. Shepherd (London), in seconding Mr. Matthews's motion, said that to be consistent they must uphold the principles of conciliation; but there was no doubt the position was becoming serious. What was the result of the intervention of Sir George Askwith in the cotton dispute? They could not avoid the conclusion that disputes of this kind were not to be settled by such methods. So far as his judgment guided him, intervention by the Board of Trade was not the best means of getting at settlements.

Mr. Storrs said the matter ought to have come before the meeting of the National Board called in December, but, feeling that they were out against a very serious difficulty, and one on which the whole country might eventually decide to take action, he thought he was taking a right course in getting a postponement, so that the matter might be brought before them. He accordingly arranged with Mr. Chandler and with the Secretary of the Operative Stonemasons' Society to postpone the matter until January. The operatives had decided that unless the masters agreed to discharge non-union labour they would enter into a strike, and they might take it that if this was entered into it would be a very bitter fight.

Mr. Moffat said he took it that the only reason the operatives had not already delivered the blow was in consequence of Rule 17 of the Conciliation Board, because if they entered on a struggle, Rule 1 combined with Rule 17 would rule them out of court. He thought that the alteration of which the masons had given notice ought not to be allowed to creep into the rules. Personally, he felt they were in for serious difficulty, and hoped the National Conciliation Board would take a strong line and resist anything like the suggested alteration.

Mr. Davidson (Leeds) said that this was a serious matter, and they in Yorkshire wanted the assurance that if drastic action was taken against individual members the National Federation would take action.

Mr. Long (Bath) remarked that the point arose in Bristol in September, where a builder's foreman objected to two men trying to coerce a non-unionist to join the union. The men left work, and the local Association wrote to the trades union, who replied that the matter was not a trade dispute within the rules. The unionists contended not only that it was not a conciliation matter, but also that it was not even a local Association matter, but simply a matter for the workmen amongst themselves. They would have to understand that this matter meant a fight.

Both the resolutions of Mr. Matthews and of Mr. Smethurst were carried.

Election of President.

The Chairman proposed that Mr. James Wright, of Nottingham, be elected President for the ensuing year, and this was unanimously agreed to.

The President-Elect, in reply, expressed the hope that the influence of the Federation would be extended in such a way as to enable employers to conduct their businesses in the way their intelligence and experience directed them, and he hoped they would never be afraid to maintain personal and individual liberty. Above all, he hoped their influence would be exerted to the preservation of initiative. The trend of modern legislation seemed of such a character that there was a danger of these great principles being subverted, but it was by such qualities that this country had been made great, and it was only by their exercise that progress and prosperity could be maintained.

A hearty vote of thanks was accorded the retiring President, and he was elected a Vice-President.

On the motion of Mr. Browne, seconded by Mr. Wright, a hearty vote of thanks was passed to the Secretary for his valuable services.

It was decided to hold the next meeting at Nottingham.

BUILDING PLANS *v.* BUILDING PROSPECTS.

THE latest returns for the last quarter of 1911, made by the local authorities as to building plans lodged for their approval, show some little improvement on the same quarter of the previous year. There was an increase of 339,241*l.*, or 11·1 per cent. (exclusive of the County of London, as to which figures are not given). This increase was confined to factories, workshops, shops, and other business premises or public buildings. Dwelling houses showed a large decrease of 227,966*l.*, or 14·8 per cent. The increase seems to be confined to Lancashire, Cheshire, the Midlands, and other districts in England exclusive of Outer London, the Northern Counties, and Yorkshire. Wales showed a decrease, but Scotland and Ireland increases.

CLAY EXCAVATING PLANT, WARNHAM.

THE Sussex Brick and Estates Company, Ltd., of Horsham, have installed a clay excavating plant at their Warnham Works. The plant consists of a steam navvy, automatic hopper and a clay conveyor. The 8-ton steam crane navvy has been built for them by Messrs. Ruston, Proctor, & Co., Ltd., of Lincoln. The machine carries a bucket of 1½ cubic yds. capacity, practically equivalent to a weight of 1½ tons of clay. The method of working is as follows :—

The bucket is first lowered to the bottom of the working face and to the level upon which the machine stands. It is then drawn up the face of the clay, taking a cut some 3 in. to 6 in. thick and 36 in. wide. By the time the top of the cut is reached the bucket is full. The machine is then slewed or swung round, so that the bucket is immediately over the hopper, which is in position alongside the machine. The driver then releases a catch upon the bucket by means of a rope, the bucket door swings open and the contents are discharged into the hopper, which in turn transfers it into wagons beneath. The machine swings back again opposite the next cut to be taken, and the bucket is lowered, which action automatically closes the door.

The above series of operations take longer to describe than to carry out, as the full cycle can be completed in thirty seconds, or in other words the machine can dig and discharge into wagons about 1½ tons of hard clay in half a minute, the speed and facility of working being a revelation.

The hopper has been built from special designs by Messrs. Fawcett, engineers, Leeds. It consists of a hopper 1½ cubic yds. capacity, under which is a revolving cylinder having two recesses, each of which will hold ⅓ cubic yd. of clay. Beneath the cylinder are the rails along which the clay wagons are conveyed continuously to the grinding mills by means of an endless chain. The cylinder is driven by a separate engine and is speeded to revolve so that the recesses filled with clay empty into the trucks underneath three times per minute.

As to the construction of the 8-ton crane navvy, there is a cutting pressure upon the bucket teeth of 8 tons, hence the term "8-ton" crane navvy. The carriage is built of steel castings and girders, and carries eight travelling wheels for standing and travelling upon the temporary rails which are necessary. The bedplate above the carriage is supported upon the latter by six rollers, which revolve upon a gear ring on the carriage, and enable the machine to revolve through a complete circle. The engines and gearing for hoisting, slewing, and travelling are all arranged upon this bedplate, the two first motions being driven through friction clutches. The racking gear to the bucket consists of a large steam cylinder from which motion is transmitted to racks upon the bucket arm for regulating the depth of cut taken by the bucket, the control being in the hands of the driver, who stands right at the front of the machine. The boiler is of large size, and supplies steam to the engines of the hopper as well as to the navvy. The water tanks are arranged under the boiler in the rear of the machine, and have a capacity of 300 gallons.

The total weight of the machine in working order is about 34 tons.

A driver and a fireman upon the machine, and two or three men around it, are all that is necessary for the output of 400 tons of clay required by the brick company to make their output of 100,000 bricks per day.

BRISTOL MASTER BUILDERS' ASSOCIATION.

THE annual general meeting of this Association was held under the Presidency of Mr. Frank Chown (President).

The annual report, from which the following is an extract, was approved and adopted, upon the motion of the President, seconded by Mr. A. Perkins. The year 1911 has been a period of continued depression, so far as the building trade is concerned, notwithstanding the improvement which has taken place in the general trade of the country. The labour unrest which has been apparent throughout the country during the past year made principals very loath to put in hand any work other than that which was imperative; consequently competition has been exceptionally keen and prices have ruled low, in spite of an upward tendency in the cost of materials. Few buildings of an important character have been put in hand. The Association has spent considerable time negotiating with the employés in the matter of notices received for advances in wages and various alterations in the working rules, and, in view of the large number of meetings thus entailed, it is fortunate that matters of general business were less pressing than has perhaps been the case in previous years.

Notices were received from all trades on January 1, 1911—carpenters and joiners, bricklays, plumbers, painters, plasterers, and labourers—asking for an increase of 1d. per hour; whilst the masons desired a reduction in the hours of labour during the summer from fifty-three to forty-seven, to be brought about by commencing work at 7 instead of 6 a.m., their idea being to secure employment for a greater number of their men by spreading the work over a larger area. Local meetings were first held, followed by reference to the South-Western Centre Conciliation Board in the case of the carpenters and joiners, bricklayers, and masons who were affiliated to the National Conciliation Board, but without any satisfactory settlement being arrived at.

Eventually it was decided to refer the matter to the Board of Trade for arbitration, and Mr. A. A. Hudson, K.C., attended at the offices on July 31 and August 1, when the case for the employers was conducted by Mr. Frank N. Cowlin. Mr. Hudson's award was to the effect that there should be no advance of wages.

As to the demand on the part of the operatives for a reduction of the working hours in summer his award was as follows :—

"I award and determine that there shall be no reduction in the working hours unless the masons' labourers affected are willing that a reduction should be made, in which case the reduction shall be three hours per week in summer for masons working on the bench or in the shop, and a corresponding reduction in the hours of labourers attending on such masons, such reduction in such case to be effected by altering the starting time from 6 a.m. to 6.30 a.m. in the summer months."

This was accepted by all trades with the exception of the plasterers, who took the matter to their Central Conciliation Board, by whom it was referred back for local settlement. After further discussion it was agreed to defer the expiration of their notice until December 31, and the question is accordingly under discussion at the present moment. In regard to the question of hours of labour for masons, the society decided to adhere to the same hours as worked by other trades.

Having promised to give special consideration to the request of the labourers for an advance, their case was brought before special meetings of the Association, with the result that it was decided, in view of the low average earnings of these men and the increased cost of living, to give them an advance of a half-penny per hour as and from January 1, 1912; this only to refer to genuine builders' labourers. Further notices have now been received from all trades for alterations in many of the working rules, as well as for advances in wages, and it is hoped that an amicable settlement will be arrived at.

On the motion of Mr. F. Chown, seconded by Mr. Cowlin, Mr. Audley Perkins was elected President of the Association for the coming year.

A very hearty vote of thanks was accorded the retiring President, Mr. F. Chown.

Mr. F. A. R. Woodward was unanimously elected Vice-President.

Mr. E. I. Neale was re-elected Hon. Treasurer.

Upon a ballot being taken, the following were declared to constitute the Committee for the coming year:—Messrs. A. Dowling, F. Chown, F. N. Cowlin, W. Foster, G. W. Humphreys, J. Lovell, F. H. Ridd, and E. W. Walters.

LEICESTER BUILDING TRADES EMPLOYERS' ASSOCIATION.

THE annual dinner of the Leicester and District Building Trades Employers' Association was held at the Grand Hotel on the 1st inst. Mr. F. Beck (President) was in the chair, supported by Alderman A. Tollington (Mayor of Leicester), Mr. J. Wright (President of the National Federation), Mr. J. B. Whitehouse (President of the Midland Centre), Mr. F. W. Amphlet (Secretary Midland Centre), Mr. E. G. Mawbey, M.Inst.C.E. (Borough Surveyor), Mr. W. M. Cowdell, F.R.I.B.A., and Mr. C. Stretton (Society of Architects), Mr. A. Chambers (Hon. Treasurer), Mr. S. A. Dove (Secretary), and others.

Mr. W. Yates, in submitting the toast of "The National Federation," observed that the Federation admirably fulfilled the purposes for which it existed in watching and promoting the interests of the trade. In proof of that it might be mentioned that the Federation was officially recognised by the Government, and frequently had communication with the Board of Trade and other official bodies. The Insurance Bill, for instance, gave them a great amount of trouble and anxiety. All the centres of the Federation throughout the country were circularised for the purpose of obtaining their views of the measure. The matter was carefully considered, and the Federations sent deputations to both the Chancellor of the Exchequer and the Board of Trade. Out of nineteen or twenty amendments they asked for, they obtained no fewer than thirteen. In coupling the toast with the name of the President of the Federation, Mr. Yates expressed the pleasure they all felt at Mr. James Wright, of Nottingham, having been elected to that office for the present year.

Mr. James Wright, in the course of his reply, pointed out that the success of the National Federation depended upon their having successful local associations. It was necessary, too, to have strong local associations if only for the purpose of dealing with their own workmen. They all knew what a strong, active, and aggressive force trade unionism had become. Trade unionists were merely looking after their own business. What builders had to do was to look after theirs, and if they were going to meet the united forces of trade unionism and to regulate the relations between both parties they must be well united. It was absolutely impossible to deal with them in units. Mr. Wright dealt with the fixing up of national Conciliation Boards in connexion with the trade. The scheme was based on such sound principles that if both sides were faithful to those principles and loyal to the decisions arrived at nothing but good could come as the result of the scheme. The Federation's only object was to improve the conditions and raise the status of the building industry. They knew that the trend of modern industrial legislation was very much towards encouraging encroachments upon what he considered to be the absolute and unalienable rights of employers, and they were, he thought, fully justified in exerting the influence of the Federation in order to try and preserve personal freedom and individual liberty in every direction, and to preserve so far as they could the fullest opportunity for the full exercise and development of individual enterprise and personal initiative in business

Mr. Edwin Fox proposed "The Midland Centre," emphasising the important work of that body and the thoroughness with which the representatives from the various associations carried out that work.

Mr. J. B. Whitehouse (Birmingham) replied to the toast, and said he should like to offer a little criticism of builders who, while gripping each other's hands on an occasion of that sort, would be figuratively cutting each other's throats on the morrow in trying to get a bit of work. It was their own fault, he thought, that they did not get a fair remuneration for the work they took. He predicted there were stormy times ahead in regard to the Conciliation Boards, as he was inclined to think that now trade was reviving there would be a disposition on the part of the men to force, rather than to conciliate. In regard to the question of unionists working with non-unionists, and whether the matter came within the province of the Boards, he said their claim was that anything that tended to disturb the trade was a subject for the Conciliation Board. Sooner or later there would have to be a fight on that question, and it would be necessary for the whole of the associations to be prepared to meet it. It might be delayed somewhat, but he was certain they had got to fight unless the leaders of trade unionism exercised more common sense than they were showing at the present time.

Mr. F. W. Amphlet submitted "The Leicester and District Association." In urging the need for the masters to be united, he suggested that the effort on the part of trade unions to make it impossible to employ non-union men was not confined to the cotton industry. They were trying to make it a general thing, and they were already feeling the effects of it in the building trade.

The Chairman, with whose name the toast was coupled, referred to the significance of the success of that gathering, and referred with satisfaction to the inclusion of the sub-trades and other steps that had been taken in the interests of the trade during the past three years.

The toast of "The Mayor and Corporation of Leicester" was proposed by Mr. E. J. Underwood.

The Mayor, having replied,

Mr. E. G. Mawbey (Borough Surveyor), who also replied, referred to the growth of the town during his experience of it, mentioning that during twenty-two years over 20,000 houses had been built in the borough, apart from factories and warehouses. In that time the greatest number of new houses in any one year was 1,809 in 1898. The numbers dropped to 700 in 1905, 320 in 1910, and 367 in 1911. The number of "empties" reached a maximum in 1907, when they numbered 3,203. It was satisfactory to know they dropped last year to 1,403.

Mr. G. A. Hewitt proposed "The Leicester and Leicestershire Society of Architects," which was coupled with the names of Mr. W. M. Cowdell and Mr. C. Stretton.

The toast of "The Visitors and Honorary Members" was submitted by Mr. A. Chambers, and acknowledged by Mr. J. H. Hawthorn and Mr. S. S. Redwood.

GENERAL BUILDING NEWS.

NEW SCHOOLS, POOLE.

The designs for these new schools were by Mr. S. J. Newman, the Borough Surveyor, and the contract was carried out by Mr. H. W. King, of Springbourne, at a cost of 6,780*l*. The exterior is of South-Western Pottery white-faced bricks with terra-cotta dressings by Messrs. Carter & Co., and the first floor is of fireproof construction by Messrs. Homan & Rodgers. The electric light was installed by Mr. A. G. Studwicke, of Branksome, and the heating apparatus by Mr. Haydon, of Trowbridge. The schools provide accommodation for 530 children.

NEW SCHOOL, LEISTON.

Mr. J. Webb is the architect for this school, which has been erected at a cost of about 3,000*l*., and which provides accommodation for 360 children. The new building includes seven classrooms, an assembly-hall 40 ft. by 20 ft., and storerooms, etc. The contractor for the building was Mr. A. J. Gibbons, Crowfield; the heating installation by Mr. E. Scott, Ipswich; and the gas-fitting by Messrs. Martin & Newby, Ipswich.

TRADE NEWS.

Under the direction of Mr. Wishart Galloway, architect, Brechin, the "Boyle" system of ventilation (natural), embracing Boyle's latest patent "air-pump" ventilators and air inlets, has been applied to the new Public Hall, St. Cyrus-by-Montrose.

An example has recently been afforded of the efficiency of the Grinnell sprinkler as a means of preventing serious fires. An outbreak occurred on November 10 at the flour and provender mills of Messrs. W. Primrose & Sons, Ltd., Glasgow. The mill was equipped with an installation of Grinnell sprinklers. In the Strut House eleven of the sprinklers operated in such a manner that the fire was soon extinguished. Messrs. W. Primrose & Sons, Ltd., have written to Messrs. Mather & Platt, Ltd., stating that owing to the timely action of the sprinklers the only damage done to the Strut House was that caused by water and a few pounds damage to wood.

Messrs. Mather & Platt, Ltd., have just been instructed to proceed with a large contract for the Accrington and Church Outfall Sewerage Board, which comprised twenty-four of their pipe arm type of revolving distributors, each 62 ft. diameter, complete with all appurtenances, as well as a sewage pump, screening mechanism, motors to drive the machines, and also the lighting work. Messrs. Mather & Platt, Ltd., are makers not only of spreaders, but also of pumps and electrical machinery, etc.

The Excellence Wood Block Flooring Company, of 11, Queen Victoria-street, London, E.C. (agent, Mr. F. S. Mayo), have recently laid wood-block flooring in their patent system at the Law Union Society Building, Chancery-lane, Austin Friars House, E.C., and Swiss Bank, Regent-street, all for Messrs. Colls & Sons. They have also laid the flooring in several London City and Midland Banks in various parts of the country under Mr. T. B. Whinney, architect; the Grammar School, St. Albans, and business premises, St. Albans, under Mr. Percival Blow; the drill hall, Taplow, under Mr. E. Wimperis, architect; the new School House, Folkestone, under Messrs. Jarvis & Richards; and doctor's house, Wimpole-street, under Messrs. Banister Fletcher & Sons, architects.

The Spot Cinema Theatre, Derby, is being ventilated by means of Shorland's patent exhaust roof ventilators and special inlet ventilators, supplied by Messrs. E. H. Shorland & Brother, Ltd., of Failsworth, Manchester.

Messrs. Morris & Sons, Ltd., Kennington-road, S.E., have erected at St. Peter's Church, Wellesbourne, Warwick, a three-light figure window, "Christ Blessing Little Children," with angel, traceries, and base, to the memory of Bevil and Alice Granville, of Wellesbourne Hall.

APPLICATIONS UNDER LONDON BUILDING ACTS, 1894 to 1909.

AT Tuesday's meeting of the London County Council the following applications under the London Building Acts were dealt with. (The names of the applicants are given in parentheses):—

Lines of Frontage and Projections.

Kensington.†—Iron and glass porch in front of No. 21, South Lambeth-road, Kensington (Messrs. J. A. J. Woodward & Sons for Messrs. E. & S. Hebert).—Refused.

Kensington, South.—Erection of a projecting clock in front of Nos. 78 and 80, Brompton-road, Kensington (Messrs. Bare, Leaning, & Bare for the Brompton Motor Company, Ltd.).—Consent.

Marylebone, East.†—Erection of Nos. 9 and 10, Market-place, St. Marylebone, with a projecting lower portion (Mr. F. M. Elgood for Mr. J. Michell).—Consent.

Marylebone, East.—Additions at No. 2, Wellington-road, St. John's Wood (Mr. S. J. Wright).—Consent.

Paddington, South.—Erection of pilasters in front of a projecting shop at No. 28, Queen's-road, Bayswater (Messrs. Still, Wheat, & Luker).—Consent.

Strand.—Alterations to a projecting sign in front of No. 40, Pall Mall (Messrs. Hill & Harrington, Ltd.).—Consent.

Strand.†—Erection of an additional projecting iron and glass sign in front of No. 27, Gerrard-street, Soho (Mr. G. K. Bird for Mr. J. Uccelli).—Refused.

Wandsworth.—Bay-windows, porches, and oriel windows to five houses on the southern side of Old Devonshire-road, Balham (Mr. A. G. Hastilow for Mr. F. E. Cain).—Consent.

Wandsworth.—Three buildings upon the site of Nos. 2 and 4, Christchurch-road, Streatham (Messrs. Barlow & Roberts).—Consent.

Wandsworth.—Gas meter-house at Earlsfield Station, Garratt-lane, Wandsworth (Mr. J. W. Jacomb Hood).—Consent.

Wandsworth.—Erection of porches and bay-windows to ten houses on the southern side of Heybridge-avenue, Streatham (Messrs. E. & A. Wates).—Consent.

Wandsworth.—Erection of wooden bay-windows and porches to eight houses on the north-western side of Heybridge-avenue, Streatham (Mr. F. Gadsdon for Mr. A. Soden).—Consent.

Wandsworth.—Erection of an external staircase at Immanuel Church, Streatham Common, next to the southern side of Braxton-road (Messrs. Murray, Delves, & Murray).—Consent.

Westminster.—Addition upon a bay-window in front of No. 124, Victoria-street, Westminster (The Westminster Trust, Ltd.).—Consent.

Width of Way and Projections.

Strand.—Re-erection of Nos. 1 and 2, Clare-market, Strand (Messrs. Metcalf & Greig).—Refused.

Lines of Frontage and Construction.

Brixton.†—Iron and glass shelter in front of a cinematograph hall at Nos. 101 and 103, Brixton-hill, Brixton (Messrs. Gardiner, Sons, & Co., Ltd.).—Refused.

Hackney, Central.†—Iron and glass shelter in front of a cinematograph theatre at Nos. 538 and 540, Kingsland-road, Hackney (Mr. F. N. Falkner).—Refused.

Hampstead.—Iron and glass shelter in front of the stable at No. 26, Ferncroft-avenue, Hampstead (Mr. C. J. Moss).—Consent.

Paddington, South.—Erection of an iron and glass shelter at Nos. 18 and 19, Leinster-gardens, Paddington (Mr. W. J. Purdy).—Refused.

Width of Way, Frontage, and Space at Rear.

Islington, North.—Erection of a building upon the site of No. 116A, Brecknock-road, Islington (Mr. A. D. Watson for Mr. H. C. Scott).—Consent.

Width of Way and Construction.

Deptford.—Raising of a boiler-house wall at premises, Gosterwood-street, Deptford, without providing a damp course to such wall (Messrs. W. A. Wayland & Co., Ltd.).—Consent.

Haggerston.—Wood and iron office building upon a site on the northern side of Mill-row, Kingsland-road (Messrs. H. Jeffries & Co., Ltd.).—Consent.

Islington, North.—Wood and iron motor-house at the rear of No. 150, Junction-road, next to Wyndham-crescent, Islington (Mr. H. Goodchild for Dr. Barragry).—Consent.

Width of Way, Lines of Frontage, and Construction.

Limehouse.—Wood and iron shed at the premises of Messrs. T. Goldschmidt, Ltd. (Messrs. Cooper & Goulding for Messrs. T. Goldschmidt, Ltd.).—Consent.

Whitechapel.—External iron and concrete gangway over the public way of Fulbourne-street, Whitechapel, to connect the premises of Messrs. Kearley & Tonge, Ltd. (Messrs. W. Eve & Sons for Messrs. Kearley & Tonge, Ltd.).—Consent.

Space at Rear.

St. George, Hanover-square.—Building upon the site of No. 19, Berkeley-street, Piccadilly, so far as relates to the erection of a summer-house and open wooden trelliswork on the roof (Mr. H. Tanner, jun.).—Consent.

Deviation from Certified Plans.

Marylebone, East.—Erection of a building upon the site of Nos. 1, 1A, and 2, Duchess-street, and Nos. 17 and 19, Hallam-street, St. Marylebone (Mr. F. T. Verity for Mr. C. E. Peczenik).—Consent.

Alteration of Buildings.

Hackney, North.—Construction of the floor of an entrance way leading from High-street, Stoke Newington, to the Four-per-cent. Industrial Dwellings (Messrs. Joseph & Smithem).—Consent.

Marylebone, West.—Erection of lifts and lift motor-rooms in Block L of the premises of Messrs. Selfridge & Co., Ltd., Oxford-street, Duke-street, and Somerset-street, St. Marylebone (Building Construction Company, Ltd.).—Consent.

Paddington, South.—Erection of a one-story shop in front of No. 28, Queen's-road, Bayswater (Messrs. Still, Wheat, & Luker).—Consent.

Wandsworth.—Formation of an additional story at the house known as "The Whim," Victoria-road, Wimbledon Park (Mr. W. G. James for Mr. W. H. Collbran).—Consent.

Formation of Streets.

Wandsworth.—Roadways of streets, sanctioned on April 11, 1911, on the Elmwood House Estate on the south-eastern side of Upper Tooting-road, Upper Tooting (Messrs. Swain & Selley).—Consent.

Wandsworth.†—Adaptation as a street of a way or part of a way leading from Mitcham-lane to Eardley-road, Wandsworth (Mr. J. Harding).—Refused.

Woolwich.—Roadways of proposed streets on the north-eastern portion of the Eltham Park Estate, Eltham (Mr. R. Stewart).—Consent.

Uniting of Buildings.

City of London.—Uniting of No. 6, Edmund-place and No. 11, Hamsell-street, City (Mr. J. Farrer for Messrs. W. Wood & Son).—Consent.

City of London.—Uniting of Nos. 13 and 14, Blomfield-street, with No. 46, New Broad-street, City (Mr. A. R. Conder for Mr. W. T. Henley's Telegraph Works Company, Ltd.).—Consent.

Finsbury, East.—Uniting of No. 101, Finsbury-pavement and Nos. 103-117, Finsbury-pavement, Finsbury (Messrs. Joseph & Smithem for Mr. W. Shepherd).—Consent.

Marylebone, West.—Formation of an opening of greater width and height than specified on the ground floor at No. 370, Edgware-road and No. 123, Church-street, St. Marylebone, and for permission to use armoured doors to such opening and to an opening on the first floor of the said premises (Mr. J. Hudson for Messrs. P. Keevil & Sons).—Consent.

Uniting of Buildings and Construction.

Strand.—Opening of larger size than specified in a division wall at Nos. 114-120, Regent-street; (ii.) the use of steel revolving shutters in lieu of iron doors to an opening in a division wall at the said premises; and (iii.) the omission to carry up a division wall above the roof level of the said premises, and the Council, in the exercise of its powers under sect. 82 of the London Building Act, 1894, do also approve the construction of gangways (Mr. H. Tanner, jun.).—Consent.

The recommendations marked † are contrary to the views of the Metropolitan Borough Councils concerned.

LONDON COUNCILS.

Acton.—The Health Committee have given instructions to the Surveyor to prepare working drawings and estimates for the erection of an administrative block at the Isolation Hospital. The estimated cost is put at 3,400*l.*

Barnet.—The Surveyor has been instructed to prepare specifications, estimates, etc., for making-up a portion of Normandy-avenue. Sanction has been received from the Local Government Board to the borrowing of 4,700*l.* for the erection of additional working-class dwellings.

Bethnal Green.—It has been decided to offer no objection to a proposal by Messrs. Allen & Hanbury, Ltd., to erect a factory on the west side of Coventry-street.

East Ham.—Plans and estimates prepared by the Borough Engineer for the erection of a fire-station with quarters for the officers and firemen's dwellings adjoining have been approved. The estimated cost is put at 8,628*l.* The Engineer has been instructed to submit estimates for the construction of an underground convenience at the corner of Barking-road and Green-street. The kerb on the eastern side of High-street North between Nos. 52 and 74 is to be set back, and application is to be made to the Board of Trade for consent to the duplication of the tramway track at this point. Instructions have been given the Town Clerk to take the necessary steps to obtain the approval of the Local Government Board to the following by-law:—"The by-laws with respect to the structure of walls shall not apply to any wall of a new public building, or of a new building of the warehouse class, which shall be constructed with steel or iron framework and in accordance with the following requirements:—(1) The framework shall be of sufficient strength to secure due stability and shall be properly put together (2) The framework shall be filled in with bricks, stone, or other hard and incombustible material properly and solidly put together, and of such thickness as shall be necessary to secure due stability to such filling." Plans have been passed for Mr. J. Clark for eight houses in Bedford-road. Mr. J. Hartshorne has lodged plans for three houses in Park-avenue.

Finchley.—The tender of Mr. William Iles has been accepted, at 1,210*l.*, for carrying out private street works in Holly Park. Application is to be made to the Local Government Board for sanction to borrow 17,000*l.*, the estimated cost of building a school in Great North-road. The Surveyor has been directed to prepare plans and estimates, with a view to application being made to the Local Government Board to sanction a loan for the erection of a public convenience at Tally Ho-corner, North Finchley. Plans have been passed for Mr. F. G. Huggins for five houses in Squires-lane, also for Messrs. Hedges & Son for seven houses in Grove-road.

Hammersmith.—Plans and specifications are to be prepared by the Borough Surveyor for relaying the wood-paving of Hammersmith-road, from Addison-road Bridge to Rowan-road, at an estimated cost of 5,302*l.*, and tenders are to be invited for carrying out the work. The tender of Messrs. Burt, Boulton, & Haywood, Ltd., has been accepted for the supply of 35,000 creosoted deal blocks, required in connexion with the paving of the north side of the Broadway, at 6*l.* per 1,000. No objection is to be offered to the proposal of Mr. J. T. Weatherburn to erect a building in Galena-road, King-street, also to the proposal of Messrs. J. S. Quilter & Son to erect a building in King-street and Dimes-place.

Ilford.—Plans have been passed as follows:—Messrs. B. Bailey & Co., for Mr. F. B. Harrison, sixteen houses, Perth-road; Mr. A. A. Hutchins, four houses, Tillotson-road; Messrs. Rawlins, Culver, & Co., four houses, Burlington-terrace, Green-lane; Mr. A. T. Haines, four houses, Leeds-road.

Middlesex.—At a recent meeting of the County Council it was decided to render fireproof the accommodation for records at the new Guildhall at a cost not exceeding 636*l.* Mosaic steps are to be substituted for granolithic steps in the secondary staircases, at an estimated cost of 159*l.* Both the contracts mentioned are to extras on Mr. J. Carmichael's contract for the erection of the Guildhall. The Education Committee has been authorised to arrange for tenders to be obtained for proposed alterations to the buildings of the Uxbridge, Cowley-road, Boys' School.

West Ham.—The Education Committee have accepted the tender of Mr. F. J. Coxhead, of Leytonstone, at 5,240*l.*, for alterations to the Colegrave-road School; also the tender of Mr. H. C. Horswill, Forest Gate, at 2,767*l.*, for alterations to the Water-lane School. The following plans have been passed:—Mr. M. W. Hudson, offices, Northern-road, Plaistow; Messrs. Holbrook & Sons, additions to factory, Cullum-street, Stratford; Mr. A. Single, offices, warehouses, and alterations at Aerated Candy Company's premises, Tramways-avenue, Stratford.

Willesden.—The following plans have been passed:—Messrs. Freeman & Barber, building line, Temple-road, Cricklewood; Messrs. Nowell Parr & A. E. Kates, for Messrs. Sich & Co., Ltd., alterations and additions to White Hart public-house, Willesden; Mr. W. J. S. Lawton for the Crypto Electrical Company, factory, Acton-lane. Plans have been lodged as follows:—Mr. H. R. Hunter, six shops, etc., All Souls'-avenue, Harlesden; Mr. Ernest Bates for Mr. H. R. Hunter, eleven houses, All Souls'-avenue, Harlesden; Mr. Edward Cave, six houses, Barrs-road, Stonebridge Park.

FOREIGN AND COLONIAL.

Hotel Construction, Spain.

Information has been received by the Commercial Intelligence Branch of the Board of Trade regarding a proposal to build a large hotel in a city of Southern Spain. Further particulars may be obtained by British contractors and manufacturers on application to the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, London, E.C.

Building, etc., Works, Chile.

H.M. Legation at Santiago report that a Government Bill has been submitted to the Chilian Congress providing for the expenditure necessary for the execution, during the ten years 1912-21, of a scheme for the construction of railways, hydraulic, and irrigation works, and public buildings, at a total cost of 211,790,455 pesos. The expenditure is divided as follows:—Railways, 110,100,000 pesos, of which 15,600,000 pesos are to be expended in 1912, and 10,500,000 pesos in each of the years 1913-21; hydraulic works, 28,690,455 pesos, of 1912, and between 2,500,000 and 3,000,000 pesos in each of the remaining years; public buildings, 63,000,000 pesos spread evenly over the ten years; irrigation works in the provinces of Tacna, Atacama, Coquimbo, Santiago, Curicó, Linares, Bio-Bio, and Cautin, 10,000,000 pesos spread evenly over the years 1912-16.

THE SURVEYORS' INSTITUTION.

AT an ordinary meeting of this Institution on Monday Mr. Edwin Savill read a paper on "The Single Tax Movement," in the course of which he said :—

"The result of putting all taxation upon the site value of land must necessarily be that only those persons who own or use land would pay taxes. Of course, the advocates of the tax say that as everybody must, directly or indirectly, use land, so everyone would have to pay their share; but there are many instances in which enormous profits are made with very little use of land, and of people with huge incomes owning no land and living in comparatively small houses. Take the case of the big trader who has a small office in the City, who would pay very little in rates compared with the benefits he receives from the protection of his interests by the Army, Navy, and Police, and from other national services. For example, a man with, say, 30,000*l.* a year, derived from various interests, foreign and home directorates, etc., occupying a small office in the City and living in the country in a house with 30 acres of land rated at 400*l.* a year; he would now pay in direct taxes and rates 2,425*l.*, while under the single tax system he would only have to pay about 250*l.* a year. On the other hand, a man who derives a net income of 30,000*l.* from an agricultural estate, and who would now pay, say, 2,700*l.* a year in taxes and rates, would under the single tax system be called upon to pay no less than 50,000*l.* a year; but against this it is to be presumed that the rates now paid by the tenant, say, 6,000*l.* a year, could be passed on to them in additional rent.

The question of how other industries would be affected by the suggested change in the method of raising revenue is a difficult one. I think the idea is that if all buildings and improvements were exempt from rating industries would move out into the country, where land is cheap, and where consequently the tax payable would be small in amount. Bearing upon this point, however, we must not forget that many industries own their present premises, and would be heavily penalised in having to pay crushing taxes upon valuable sites which they would be obliged still to occupy, in that they would certainly not be able to sell it. Undoubtedly those industries which were in a position to move would be inclined to do so, but, before moving, they would have to consider not only taxation, but means of transit, market, labour, and other matters.

There would in all probability be great changes in our industrial towns. A good deal must depend upon how much land an industry occupies, and the value of that land, but, above all, upon a point on which the land taxers themselves do not at present seem very clear, namely, whether a revaluation of the land would be made at certain periods, or whether the present valuation would remain the basis of taxation for ever. If the land is not to be revalued, the valuations which are now being made (of which the site value is to be used for assessing the new taxation) would quickly become entirely false, all the conditions under which they had been made being changed the moment the new Act was passed. In spite of this fact, the owner would be compelled to go on as long as he was able paying taxes upon the original valuation, arrived at before the great changes had taken place, and notwithstanding the fact that his land had depreciated in value, his tenants departed, and new ones unable to be found. When ruined and unable any longer to pay the taxes his land would presumably pass to the State. Doubtless some owners in districts which are now of little value would presumably score, because they and purchasers from them would only have to pay taxes on a low site value, although, owing to capital expended on roads, factories, houses, etc., their land would be worth a far higher sum.

On the other hand, if the land is to be revalued at certain periods, there would be, I think, a large increase in the amount of tax in the pound, owing to the depreciation in present valuable localities being more rapid than the appreciation in the localities where land is now of little value. As a consequence the industries which had moved into the country would find that, on account of this increase in the amount of the tax on the increased site value of the land they occupied (and they are all supposed to be going to spread themselves out and use much more land than they do at present), they would not have benefited much by the change.

I think the position can be summarised in this way. If land is not to be revalued, some factories, small houses, and cottages will occupy larger areas of land, and, owing to the low original value of their sites, will pay comparatively low taxes, while in other cases the converse will obtain, certain sites being burdened with taxes so crushing as to make them almost incapable of economic use. If, on the other hand, land is to be revalued, industries will build their workshops and cottages on the smallest possible area of land, because they will fear the increase in the amount of taxes they will have to pay as values increase. This surely will be no improvement on the present state of affairs."

PRELIMINARY EXAMINATION, 1912.

The following candidates have satisfied the examiners :—

J. P. Addison, Colliery, near Durham
R. Addison, Appleby
F. H. H. Barber, West Ayton
A. G. Bates, Paddington
P. R. Bawden, Redruth
G. Berriman, Bournemouth
G. C. Biggs, Congleton
G. D. G. Bottomley, High Harrogate
C. L. Bulstrode, Bishop's Waltham
A. V. Cain, Milnthorpe
O. A. Chapman, Tramore
F. E. Clarke, Twickenham
G. J. Clarke, Slough
R. K. Crouch, Kenilworth
D. L. Davies, Carnarvon
S. Davies, Lye
J. H. Day, Maidstone
G. McT. Desprey, Kensington
W. R. H. Downes, London
W. E. Ellis, Newport, Mon.
E. R. Elwell, Leytonstone
E. H. Esbester, Bristol
A. Eversheld, Burton-on-Trent
C. W. S. Fifield, Chingford
H. G. S. Flower, Bath
F. O. Forrester, Purley
F. C. Gibaud, Bristol
A. Gilbert, Enfield Highway
A. Glasse, Loughton
E. E. W. Granger, Burnley
H. S. Graves, Ashford
S. L. T. Green, London
H. H. Haddelsey, Birmingham
W. Harwood, Keyworth
G. S. Hebden, Rawcliffe Bridge
M. T. Hedley, Cumberland
T. A. Heywood, Darwen
G. S. Jennings, Birmingham
R. G. Jukes, Tipton
M. D. Kilford, Ilkeston
H. C. Killender, Liverpool
Wm. S Knowles, Gloucester
D. Langlands, Dartford
R. C. Lewonski, Hove
H. C. Mason, Croydon
A. W. E. Medhurst, Wandsworth
*H. P. Mole, Redhill
C. Ody, Manchester
T. B. Owen, Stroud
F. L. Pascoe, Stroud Green
A. D. Paull, Wembley
R. R. B. Payne, Hitchin
G. B. Piggott, Merioneth
E. Purry, London
E. G. Richardson, Wood Green
H. H. Roberts, Carnarvon
R. G. Roberts, Abergele
J. T. Robinson, Atherstone
R. A. Samuel, Swansea
E. Seabrooke, Maida Vale
W. A. Shimmin, Douglas
P. E. Simmons, Basingstoke
P. W. Soundy, Charlwood
H. N. Surgey, Seaford
C. J. Thurgood, Ware
D. W. Turner, Mansfield
R. M. Vickery, Chard
S. Watts, Kensington
T. G. White, Pontardulais
C. I. Widcombe, Datchet
H. V. Willis, Southampton
C. H. F. Wollaston, St. Albans
H. C. Wolton, Suffolk
C. J. Woolley, Stoke-on-Trent
E. H. Wootten, Ealing
C. S. Wootton, Ealing

Scottish Candidates.

T. MacMillan, Glasgow
J. C. Platt, jun., Barnes

* Head of list.

SMOKE ABATEMENT.

AT a meeting of the Institute of Sanitary Engineers held on January 22 (Surgeon-General Sir Lionel Spencer, K.C.B., in the chair) Mr. Lawrence W. Chubb, F.C.I.S., Secretary Coal Smoke Abatement Society, read a paper on "Smoke Abatement." In the course of his remarks he said :—

"The smoke abatement movement has suffered not so much from any general failure of engineers, chemists, and social reformers to recognise the disadvantage of a befouled atmosphere, or to the non-existence of a desire amongst manufacturers to avoid waste, as from the absence of unanimity as to the best remedial measures, and from the lack of systematic co-operation and united effort on the part of those who, broadly speaking, are in sympathy with the movement either as coal consumers or sanitary reformers. What is required is a definite programme, to which all interested in the subject may subscribe, calculated to appeal to the common sense of the community, as well as to manufacturers, as reasonable and practicable.

It is almost unnecessary, save for the purpose of explaining the urgent need of Government action, to remind you of the decay from which our buildings suffer as the result of the acids deposited by smoke. The case of Westminster Abbey at once occurs to the mind, and we have it on the authority of the Rev. Dr. Robinson, until lately Dean of Westminster, that as long ago as 1683 the stately edifice was described by Keepe as being "So shrivelled and parcht by the continual blasts of the northern winds to which she stands exposed, as also the continual smoaks of sea cole, which are of a corroding and fretting quality, which have added more furrows to her declining years so that little of her former beauty now remains." What took place two centuries ago is now going on at an ever-increasing rate, and it is stated that it is now sometimes necessary to renew portions of the fabric which have only been exposed to the London air for twenty years.

And what is true of the Abbey is equally true of every building in the metropolis. The rate of decay may be checked by the use of Portland stone or other building material, which suffers less from the deleterious action of sulphur acids than the susceptible fabric of the Abbey, but decay is slowly but surely taking place. The corrosive effect of smoke and its constituents is everywhere apparent. We see it in the case of modern buildings, such as the St. Pancras Railway-station, and already the new palatial piles of Government buildings in Whitehall are becoming discoloured.

Buildings are not the only sufferers. Works of art, according to Sir Arthur Church and other noted experts, equally suffer; so do our clothes, furniture, and, indeed, everything exposed to the decimating effect of the sulphur compounds given off into the air wherever coal is burned. The experiments of Dr. Rideal have proved that even plated and metal articles rapidly deteriorate upon exposure to our sulphurous atmosphere.

The waste of fuel is equally appalling. In the case of domestic fires the late Sir W. Roberts-Austen undertook the collection of data. His inquiries led him to estimate that the percentage loss of coal as soot was somewhat over 6 per cent. This estimate has recently been confirmed by Professor Cohen and Mr. Ruston, of the University of Leeds. If, as is computed, in this country we annually burn from thirty-two to thirty-five millions of tons of coal for domestic purposes, the direct waste of fuel is nearly 1,950,000 tons. In factories it is estimated that the waste of coal as soot is 0·5 per cent., or approximately 500,000 tons per annum. This is apart altogether from the loss in connexion with locomotives and gas-works.

The legal position is fairly simple. There is no power to interfere with the emission of smoke from the chimneys of private dwelling-houses, but factories, workshops, and commercial establishments generally are amenable to the London Public Health Act, 1891, if in the metropolis, or to the Public Health Act, 1875, if outside.

The provisions of the Public Health (London) Act relating to smoke nuisances are substantially the same as those in the earlier statute. But in 1910 the London County Council secured the insertion of a clause in its General Powers Act enabling it to take proceedings in regard to smoke nuisances, at the request of and in lieu of Borough Councils, the sanitary authorities for administering the Act of 1891. The County Council can also take proceedings in the case of nuisances emanating from the works of Borough Councils, and may spend 500*l.* per annum "in investigating and advancing measures with respect to smoke consumption and the abatement of nuisance arising from the smoke." Dwellers in London owe much to the County Council for its whole-hearted support of the smoke abatement crusade.

It might be thought that the general statute law was sufficiently drastic to ensure the cessation of smoke nuisances. Unfor-

tunately, this is by no means the case. In the first place, it is often found that among members of the local authorities, upon whom is imposed the duty of securing the observance of the law, are some of the worst offenders. They are not likely to desire to prosecute themselves. Sanitary officers, obviously, are unfairly handicapped in such cases, for it requires an unusual degree of courage for an officer to press that the law should be enforced against his employer.

In the second place, proceedings are, as a rule, heard by a bench of magistrates, and not by a stipendiary. Medical officers of health and sanitary inspectors generally complain that in such circumstances it is either impossible to secure a conviction, or that the fine imposed is so trivial as to fail to act as a deterrent.

In the third place, the notorious case in regard to the Lots-road generating-station has shown the uselessness of relying upon any colour standard. In that case the magistrate declined to admit that the smoke emitted was "black," preferring the evidence of scientific experts to that of trained sanitary inspectors.

In the fourth place, there still exists amongst the uninformed an impression that the smoke abatement movement is designed to harass trade.

The Coal Smoke Abatement Society was formed in 1899 mainly as the outcome of the efforts of Sir William Richmond, its President, in consequence of the great prevalence of factory smoke in London, owing to the failure of the local authorities to enforce the observance of the law. It is, of course, a voluntary body, and by the employment of an inspector to report upon smoke nuisances, by stirring up local authorities to a sense of their obligations to the community, and by showing the public that smoke abatement is no idle dream, but a practical scheme of social reform, the Society has done much to improve the conditions of affairs in the metropolis.

The result is seen in the gradual but remarkable diminution of smoke fogs, as well as in the increase of winter sunshine which the metropolis now enjoys. The average number of cases of metropolitan smoke nuisance reported upon by the Society is 1,350, but there can be no doubt that the emission of smoke from factories has undergone a remarkable decrease since the Society came into existence. By way of illustration it may be of interest to point out that the Society's observations have shown that during the last twelve months no nuisances have been detected in respect of 913 factories which in past years were persistent offenders. This fact shows that smoke can be abated where the desire to do so exists.

Industrial smoke which pollutes the London air at the present time is mainly due to factories outside the area administered by the County Council.

In cases where a wilful disregard is shown of statutory obligations to administer the Smoke Clauses of the Public Health Act, it is competent for the Local Government Board to intervene. Unfortunately, the Department has hitherto manifested a disinclination to take the initiative in this direction. The result is that every fog from which London suffers is charged with soot from outlying towns.

In organising the movement the Society has not overlooked the importance of dealing with the domestic smoke nuisance. It cannot be gainsaid that a large proportion of London's smoke is now contributed by our kitchen fires and household grates. In this connexion, several elaborate series of tests of grates, gas fires and fuels have been conducted under the Society's direction, and with the concurrence and support of H.M. Office of Works. These tests have established that while it is almost impossible to hope that an open grate will ever be devised in which bituminous coal may be burnt smokelessly, yet many types of grates are now being manufactured which at least diminish the waste of fuel and give much more satisfactory results from the point of view of heating than their old-fashioned predecessors.

It is believed, too, that the tests of gas fires have tended to remove the prejudice which previously existed against this method of heating, for they have shown that if inserted and used under hygienic conditions, properly constructed gas fires are satisfactory and economical. To the gas and electricity supply companies we owe a great deal, for the employment of their heating and cooking appliances must have effected an immense reduction in domestic smoke, and the cheap and smokeless power they supply has greatly simplified the facts of dealing with factories where deficient boiler room has been the main cause of smoke nuisances. The extent to which gas is alone assisting to clear the air may be gauged from the fact that in the metropolis no fewer than 1,300,000 cooking and heating appliances are now served by the gas companies.

The greatest difficulty has been the latent suspicion, or open hostility, with which the Society has been met by manufacturers. But signs are not wanting that this, perhaps natural feeling, is slowly but surely giving place to a desire for co-operation. It is now becoming widely recognised that the emission of quantities of smoke, especially in the case of large installations, is a sign of waste of fuel, a proof of inadequate supervision, and an ocular demonstration of boiler inefficiency.

The present position of the movement is by no means satisfactory. It is true that striking advances have been made towards the goal we are reaching for, a pure and unpolluted air. But we now seem to be marking time owing to the indisposition of Parliament to give the further powers sought by the great Local Authorities without conclusive proof that these would not unduly harass trade.

Prosecutions for the infringement of the law are decreasing, not because of the non-existence of nuisances, but because of the difficulties of meeting the numerous technical pitfalls created by modern decisions. I therefore suggest that the time has arrived when all interested in the movement should sink their individual desires that some particular form of remedy should be universally adopted, or that efforts should be made to secure the passage of some Private Member's Bill to amend the law in some particular direction.

My proposal is that the Government should be urged to appoint a Royal Commission. The last Parliamentary Committee to consider Smoke Abatement met sixty-seven years ago. Power production, heating and lighting have made marvellous strides since then, and there are numerous points upon which official inquiry could well be made. May I be permitted to summarise a few of the most important of them?

The Royal Commission might be directed to inquire :—

1. What standard, if any, is desirable as to the colour or density of the smoke which should be deemed a nuisance?
2. How the colour or density of smoke can best be identified. (At present a variety of methods are employed, none of which is altogether satisfactory, and some uniform rule is urgently required.)
3. Are the fines at present inflicted upon offenders sufficiently adequate to act as deterrents?
4. Who should be punished, the owner of the works, the engineer-in-charge, or the stoker, when smoke nuisances result from careless manipulation of well-equipped installations?
5. Should any industries receive special treatment
6. Should Government Inspectors be appointed to act in regard to the emission of smoke as is done in the case of the Alkali Acts?
7. Should Government premises be placed under the obligation to prevent smoke nuisances? (At present they are immune from prosecution.)
8. Ought any hourly or other time limit to be fixed during which the emission of black or other smoke may fairly be permitted to issue from factory shafts? (At present the time limits fixed by various municipalities vary between three minutes and fifteen minutes in the hour.)
9. Should all cases be heard by Stipendiaries?
10. Can the issue of an unreasonable quantity of smoke be prevented except in the case of breakdown or accident?
11. Can it be shown that the installation of proper appliances generally results in economy, as is contended by "Smoke Abaters."
12. The incidence, intensity, and duration of fogs and their effect on health.
13. The influence of smoke on health.
14. The damage of smoke to buildings, works of art, and property generally.
15. Foreign efforts to cope with the smoke nuisance.
16. How far it is possible by Smoke Abatement to conserve our coal supplies.
17. How far it is practicable to deal with smoke from private dwelling-houses.

I entertain no doubt whatever that if an inquiry is granted, the result of its investigations will be to create an overwhelming body of public opinion sufficient to force the Government to initiate legislation to preserve from unnecessary pollution the air we breathe."

TROPHY FOR "THE BUFFS."

THIS regimental trophy has been designed and modelled by Miss Florence Steele for Mr. H. H. Plante, silversmith. At each side of the base are two groups representing Kent training her children in knowledge and arms, surrounded by swags of hops. Above are the badge, a dragon (at each side), and a label with the motto of the Buffs, "Veteri Frondescit Honore," then come four figures in relief, Courage, Endurance, Loyalty, and Mercy, leading up to a figure of Victory. Around the base are the battle honours, and under each group a label with this inscription :—"Presented to the 2nd Battalion, the Buffs, by those officers who served during the South African War." 1899 to 1902.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday in the County Hall, Spring-gardens, S.W., Mr. E. White, Chairman, presiding.

LOANS.—A loan of 10,000*l.* is to be made to the Greenwich Borough Council for street improvements, and a loan of 2,500*l.* to the Stepney Borough Council for electricity meters.

CROSSNESS PUMPING STATION.—It is proposed to erect penstocks, hydaulic piping, etc., required in connexion with the enlargement of this pumping station, and tenders are to be invited for that purpose.

SOUTHWARK PARK.—Various repairs and alterations are to be carried out at the superintendent's lodge and cricket pavilion at this park, at an estimated cost of 250*l.* for the lodge and 55*l.* for the pavilion.

KENNINGTON PARK.—Public conveniences are to be erected on the triangular detached portion of Kennington Park, at the junction of Kennington Park-road with Brixton-road.

THEATRES, ETC.—It is proposed to erect a cinematograph theatre on a site in Downplace, King-street, Hammersmith, and various alterations are to be carried out at the Little Theatre, John-street, Adelphi, including the provision of a balcony. The following drawings have also been approved :—Adelphi Theatre—scheme of heating and ventilation and provision of pass doors from the exit staircase from the upper balcony; Lyric Theatre, Shaftesbury-avenue—alterations to electrical installation; New Prince's Theatre, Shaftesbury-avenue—provision of electrical resistances; St. George's Hall, Langham-place—alterations to cinematograph enclosure, provision of platform for seating in balcony, and alterations to ventilating arrangements; 268, Tottenham Court-road—provision of draught screen, raising of orchestra floor, and alteration to orchestra rail.

HOMELAND CHURCHES.

A new edition of Mr. Sidney Heath's "Our Homeland Churches and How to Study Them," will be published by The Homeland Association during next month. The text has been remodelled and lengthened; the illustrations have been revised and now include a series of architectural drawings by Mr. J. R. Leathart. The new edition will be issued at 2s. 6d. net.

Regimental Trophy. By Miss Florence Steele.

List of Competitions, Contracts, etc.

For some Contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this number: Competitions, iv.; Contracts, iv. vi. viii. x.; Public Appointment, —. Auction Sales, xxii.

Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

***** It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur.**

Competitions.

FEBRUARY 14.—**Shanklin.**—Liberal Club, to cost about 1,000*l.* Particulars from Mr. E. G. Medley, 1, Victoria-villas, Clarendon-road, Shanklin.

FEBRUARY 17.—**London, E.C.**—NEW OFFICES.—The Port of London Authority invite preliminary sketch designs for new head offices in Trinity-square, and for laying out remainder of land as a building site. See advertisement in issue of November 24 for further particulars.

FEBRUARY 17. — **York.** — SCHOOL. — The York Education Committee invite competitive designs for a public elementary school. See advertisement in issue of January 12 for further particulars.

MARCH 15. — **Drammen, Norway.**—RAILWAY-STATION.—Particulars from the Norges Statsbaner, Christiania.

MARCH 15. — **Prestatyn, North Wales.** — LAYING-OUT ESTATE.—Lord Aberconway and the Trustees of the Prestatyn Estate invite designs for laying-out of the estate. Three premiums are offered. Particulars from 33, Henrietta-street, W.C. See advertisement in issue of January 5 for further particulars.

MARCH 16. — **Harrow.** — PUBLIC OFFICES.—The Harrow-on-the-Hill U.D.C. invite tenders for the enlargement of and alterations to their Public Offices. See advertisement in issue of January 5 for further particulars.

MARCH 30.—**Edinburgh.**—MEMORIAL TO KING EDWARD.—Limited. See Competition News, p. 151.

* MARCH 31.—**Manitoba, Canada.**—PARLIAMENT BUILDINGS.—The Government of Manitoba invite designs for the new Parliament buildings to be erected in the City of Winnipeg. See advertisement in this issue for further particulars.

APRIL 20.—**Birmingham.**—BLUE COAT SCHOOL.—Limited to local architects. Assessor, Mr. G. H. Hunt, F.R.I.B.A. Particulars from the Secretary, the Blue Coat School, Birmingham.

MAY 1.—Society of Architects' Travelling Studentship. Design for a Town Hall. 25*l.* and medal.

JUNE 28. — **Hale, Cheshire.**—TOWN PLANNING SCHEME.—Premiums 50*l.* and 25*l.* Particulars from the Council Offices, Hale.

JULY 1. — **Dusseldorf.** — **A plan for the extension of the City of Dusseldorf. Premiums of 1,000*l.* to 375*l.* Conditions on application to the Chief Burgomaster, Dusseldorf. A translation appeared on page 365, September 29.**

AUGUST 30. — SAXON SNELL PRIZE. — Fifty guineas; with medal, is offered for essay on a hospital subject. Particulars from the Sanitary Institute, 90, Buckingham Palace-road, S.W

NO DATE.—**Jordanhill, Glasgow.**—PROPOSED TRAINING COLLEGE.—Limited to six firms, named in Competition News, December 1, 1911, page 635.

* NO DATE. — **Warrington.** — SCHOOL. — The Warrington Education Committee invite competitive plans for the erection of a public elementary school. See advertisement in this issue for further particulars.

Contracts.

BUILDING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

FEBRUARY 9. — **Dewsbury.**—ALTERATIONS.—For alteration of houses, Wakefield-road. Plans and specifications with Mr. E. Vincent King, A.R.I.B.A., architect, 24, Westgate, Dewsbury.

FEBRUARY 9. — **Harwich.** — ALTERATIONS.—For alterations to the Esplanade Infants' School. Specification from Mr. G. D. Hugh-Jones, Secretary, Harwich.

FEBRUARY 10. — **Edinburgh.** — BANK.—Formation of proposed manure loading bank at the railway sidings, Cattle Market, Gorgie. Plans and specification by Mr. James A. Williamson, A.R.I.B.A., Public Works Office, City Chambers.

FEBRUARY 10. — **Edinburgh.**—BUILDING.—For erection of a building for store cattle at the new Cattle Market, Gorgie. Plans and specification by Mr. James A. Williamson, A.R.I.B.A., Public Works Office, City Chambers.

FEBRUARY 10.—**Machynlleth.**—IMPROVEMENTS.—Erection of new organ chamber and other improvements to Maengwyn C.M. Chapel. Plans, etc., at Glasgow House. Mr. Rowland Lloyd Jones, M.S.A., architect, 14, Market-street, Carnarvon, and 36, High-street, Pwllheli.

FEBRUARY 10. — **Penryn.**—CENTRE.—For forming a handicraft centre at the Penryn Council School. Plan and specification with Mr. Sampson Hill, Architect to the Committee, Greenlane, Redruth.

FEBRUARY 10. — **Portrush.** — SHOP, ETC.—For erection of a café and shop on the site known as the "Rock Shop," and construction of a concrete breakwater. Plans and specifications from Mr. Albert J. Clarke, C.E., architect and surveyor, 2, Craigvara, Portrush.

FEBRUARY 12. — **Colebrook.**—VICARAGE.—Erection of a new vicarage. Plans and specification seen, and quantities, on deposit of 3*l.*, from Messrs. E. H. Harbottle & Son, architects, County-chambers, Exeter.

* FEBRUARY 12. — **Great Burstead.** — SEVEN COTTAGES.—The Billericay R.D.C. invite tenders for the erection of seven cottages in Church-lane, Great Burstead. See advertisement in this issue for further particulars.

FEBRUARY 12.—**London.**—REPAIRS.—For repairing works to floors and roofs, etc., at Workhouse, Northumberland-street, Marylebone, W. A specification and form of tender from the architect, Mr. A. Saxon Snell, F.R.I.B.A., of 22, Southampton-buildings, Chancery-lane, W.C. Deposit of 5*l.*

FEBRUARY 12. — **Pontymister.**—HOUSES.—For erection of fifteen houses in Clyde-street. Plans seen, and specifications from the Surveyor, Mr. A. J. Dardis, Council Offices, Risca. Deposit of 2*l.* 2s.

FEBRUARY 12. — **Port Talbot.** — CHAPEL.—For erection of Independent Congregational Chapel at Abercregan, Cymmer, Port Talbot. Plans and specifications with Messrs. T. E. Richards & Kaye, architects, Pontypridd.

FEBRUARY 12.—**Rosehearty.**—HALL.—Erection of new Masonic Hall. Plans and specifications with Mr. W. S. F. Wilson, architect, Fraserburgh.

FEBRUARY 13. — **Maidstone.**—ENGINE-HOUSE.—Erection of a small engine-house at the Corporation Sewage Works at Aylesford. Specification, plans, and form of tender from the Borough Surveyor, Fair Meadow.

FEBRUARY 14 — **Cockermouth.**—HOUSES.—For converting No. 1, Derwent-place into two dwelling-houses. Plans and specifications with Messrs. J. S. Moffat & Bentley, Lic.R.I.B.A., architects, 53, Church-street, Whitehaven.

FEBRUARY 14.—**Woodford.**—SCHOOL.—For erection of a school for special instruction at Madeira-grove. Plans and specification seen, and information from the architects, Messrs. Tooley & Foster, Council Offices, Queen's-road, Buckhurst Hill, Essex. Quantities on deposit of 2*l.*

FEBRUARY 15. — **Morley.**—VILLA.—For erection of villa residence, St. Andrew's-avenue. Plans and specifications seen, and quantities from Mr. T. A. Buttery, Lic.R.I.B.A., architect, Queen-street, Morley.

FEBRUARY 15.—**Porthtowan.**—RESIDENCE.—For erection of a residence. Plans and specifications with Mr. S. Hill, architect, Green-lane, Redruth.

FEBRUARY 15.—**Reading.**—HEADQUARTERS.—For the erection of new headquarters for Scattered Homes, Russell-street. Architect, Mr. W. Roland Howell, F.R.I.B.A., 17, Blagrave-street, Reading. Deposit of 1*l.*

FEBRUARY 15.—**Redcar.**—TOWER.—For erection of the memorial clock tower in Central-square. Plans and specifications with Mr. J. Howcroft, Surveyor, U.D.C. Offices, Redcar.

FEBRUARY 15. — **Welshpool.** — GALLERY.—For construction of a gallery at the Wesleyan Church. Plans and specification with Mr. John Potter, No. 4, Pentrefelin-terrace, Welshpool.

FEBRUARY 16.—**Barrow.**—LAUNDRY.—For erection of a new laundry at the North Lonsdale Hospital. Quantities from Mr. H. T. Fowler, A.R.I.B.A., architect and surveyor, 6, Cornwallis-street, Barrow-in-Furness.

FEBRUARY 17.—**Skipton.**—CHIMNEY, ETC.—Erection of a brick chimney and an engine-house at Moor View Baths. Mr. A. E W. Aldridge, Surveyor, Town Hall, Skipton.

FEBRUARY 17. — **Thornley.**—ALTERATIONS.—For alterations to the Workmen's Club at Wheatley-hill, Thornley, S.O. Plans and specification at 22, Market-place, Durham. Mr. H. T. Gradon, architect.

FEBRUARY 19. — **Belfast.** — SHED.—For taking down existing buildings and clearing site for new goods shed for the Great Northern Railway Company (Ireland). Drawings and specification at the Engineer's Offices at Dublin and Belfast, and quantities from Mr. T. Morrison, Secretary, Amiens-street Terminus, Dublin. Deposit of 1*l.* 1s.

FEBRUARY 19. — **Cardiff.** — EXTENSION. — For extensions of works and sidings at Lower Penarth. Plans seen, and specification, quantities, and form of tender on deposit of 5*l.* from Mr. John W. Rodger, architect and surveyor, 14, High-street, Cardiff.

FEBRUARY 19.—**Coventry.**—FOUNDATIONS.—For construction of concrete foundations for purifiers, etc., at Foleshill Gasworks. Drawings seen, and specification, with form of tender and quantities, from Mr. F. W. Stevenson, Engineer and General Manager, Gasworks, Coventry. Deposit of 1*l.* 1s.

* FEBRUARY 19. — **Hunstanton.** — ADDITIONS, ETC., TO HOME.—The Committee of the Hunstanton Convalescent Home invite tenders for alterations and additions. See advertisement in this issue for further particulars.

FEBRUARY 19.—**Lydiate.**—CHANCEL.—For new chancel to the church. Plans and specifications with Messrs. Austin & Paley, architects, Lancaster; quantities from Messrs. Wright & Son, surveyors, Lancaster.

FEBRUARY 19. — **Sheffield.**—SCHOOL.—For erection of new department for infants and special centre, at Whitby-road Council School, Darnall. Drawings and conditions of contract seen, and quantities and forms of tender from the City Architect, Town Hall, Sheffield.

FEBRUARY 19. — **Whitby.** — ROOMS.—For the erection of new guild rooms. Plans and specifications with Mr. E. W. Smales, architect, etc., 64, Baxtergate, Whitby.

FEBRUARY 20.—**Bilston.**—FIRE-STATION, ETC.—For erection of a new fire-station in Market-street, and new sanitary depôt and foreman's cottage in Lunt-lane. Plans seen and specifications, quantities, and form of tender from Mr. Vincent Turner, A.M.Inst.C.E., Surveyor's Office, Town Hall, Bilston; deposit of 2*l.* 2s.

FEBRUARY 20.—**Doneraile.**—HOUSE.—For erection of a dwelling-house at Oldcourt, Doneraile. Plans and specifications with Mr. Wm. F. Maye, C.E., architect, Fermoy, and 51, Grand-parade, Cork.

FEBRUARY 20. — **Durham.**—SCHOOL.—For erection of new Council school at Easington Colliery. Plans, specification, and general conditions of contract seen, and quantities from Mr. J. Morson, architect, 77, Westgate-road, Newcastle-on-Tyne.

FEBRUARY 20. — **Winchester.** — WARDS, ETC.—Erection of new nurses' quarters and maternity wards, to be built in the grounds of the Winchester Union Workhouse. Quantities on deposit of 2*l.* 2s. from Mr. Frank Faithfull, Clerk to the Guardians, 105, High-street, Winchester. Drawings and specifications seen at the offices of the architect, Mr. B. D. Cancellor, 12, Jewry-street, Winchester.

FEBRUARY 21. — **Foyers.** — HOUSE.—Erection of house for cookery and woodwork classes at Public School. Plans and specifications from Mr. W. W. Jack, Fort-Augustus.

FEBRUARY 21.—**Idmiston.**—SCHOOL.—For erection of a Council scoool. Plans and specification with Mr. J. G. Powell, County Surveyor, Trowbridge. Quantities and form of tender on deposit of 5*l.*

FEBRUARY 22. — **Alton.**—SCHOOL.—For erection of Council school and alterations to existing school Plans seen, and quantities, specification, and conditions of contract from Mr. A. L. Roberts, Architect to the Education Committee, The Castle, Winchester. Deposit of 2*l.* 2s. for quantities.

FEBRUARY 22.—**Blaina.**—HOUSES.—Erection of seventy-four houses at Cwm Celyn. Plans and specifications, quantities, and forms of tender from the Council's Engineer and Surveyor, Mr. W. J. Davies, on deposit of 5*l.*

* FEBRUARY 22. — **Bradford.** — ALTERATIONS TO LABOUR EXCHANGE.—The Commissioners of H.M. Works, etc., invite tenders for alterations to Bradford Labour Exchange. See advertisement in this issue for further particulars.

* FEBRUARY 22. — **Mile End.**—LAVATORIES AND BATHROOM.—The Guardians of the Poor of the Hamlet of Mile End Old Town invite tenders for building lavatories and bathroom. See advertisement in this issue for further particulars.

* FEBRUARY 23. — **Darlington.**—ENLARGEMENT OF POST-OFFICE. — The Commissioners of H.M. Works and Public Buildings invite tenders for enlargement of post-office. See advertisement in this issue for further particulars.

FEBRUARY 24. — **Carnarvon.** — ADDITIONS.—For additions and alterations to the landing-stage. Plans and specification with Mr. W. Bowen Jones, A.M.Inst.C.E., 4, Church-street, Carnarvon

* FEBRUARY 26.—**Bury.**—COUNTY COURT, ETC.—The Commissioners of H.M. Works and Public Buildings invite tenders for County Court, Inland Revenue, and Customs and Excise Offices. See advertisement in this issue for further particulars.

* FEBRUARY 26. — **Swansea.** — HOUSES.—The Corporation of Swansea invite tenders for fifty houses in Cwm-road. See advertisement in this issue for further particulars.

BUILDING—*continued.*

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

* FEBRUARY 26. — **Swansea.** — HOUSES.—The Corporation of Swansea invite tenders for fifty-three houses at Trewyddfa Common. See advertisement in this issue for further particulars.

* FEBRUARY 26. — **Wakefield.** — EXTENSION OF COUNTY HALL.—The West Riding General Purposes Committee invite whole or separate tenders for the work in connexion with the extension of the County Hall. See advertisement in this issue for further particulars.

FEBRUARY 27. — **Lingdale.**—ALTERATIONS.—For alterations and improvements at Lingdale Council School. Plans and specifications at the school. Mr. J. G. Wrigley, Secretary, County Hall, Northallerton.

FEBRUARY 27. — **London.**—CONVENIENCES.—For construction of sanitary conveniences in Blackshaw-road, Tooting, and on Clapham Common, near Clapham Cross. Specifications, drawings, forms of contract seen, and forms of tender and quantities at the Borough Engineer and Surveyor's Office, No. 215, Balham High-road, S.W. Deposit of 1*l.* 1s.

FEBRUARY 27.—**Neath.**—INFIRMARY.—For erection of an administrative block, pavilions for sick and infirm, children's home, porter's lodge and lunatics' ward, laundry, engine-house and stack, nurses' home, boundary walls, roads and sewers, and electric lighting in connexion with Neath Graded Infirmary at Penrhiewtyn, Neath. Plans and specification with the architect, Mr. J. C. Rees, Parade-chambers, Neath. Quantities on deposit of 5*l.* 5s.

* FEBRUARY 28.—**Enfield.**—TRAINING WORKSHOPS.—The Edmonton Guardians invite tenders for erection of three training workshops at Enfield. See advertisement in this issue for further particulars.

FEBRUARY 28.—**London.**—SHOPS.—Erection of three training workshops at the Chase Farm Schools, Enfield. Specification and conditions of contract from the architect, Mr. J. C. S. Mummery, at his office, 13, Fitzroy-square, W.

FEBRUARY 28.—**Wellow.**—SCHOOL.—For erection of a Council school and teacher's residence at Peasedown St. John, Wellow, near Bath. Plans and specification with the architect, Mr. W. F. Bird, Midsomer Norton.

MARCH 4.—**Macclesfield.**—ADDITIONS.—Alterations and additions to the St. George's School, High-street. Plans and specifications and form of contract with Messrs. Whittaker & Bradburn, architects, King Edward-street, Macclesfield. Deposit of 2*l.* 2s. for quantities.

* MARCH 4. — **Salford.**—SCHOOL.—The Salford Education Committee invite tenders for new municipal secondary school for boys. See advertisement in this issue for further particulars.

* MARCH 4. — **Stepney.** — STRUCTURAL ALTERATIONS. — The Stepney B.C. invite tenders for structural alterations at the Libraries, Mile End. See advertisement in this issue for further particulars.

MARCH 5. — **Douglas.** — ALTERATIONS. — For alterations to the court-house. Plans and specifications from Messrs. Cowle & Son, Government architects, St. George's-street, Douglas, Isle of Man.

NO DATE. — **Belfast.** — BOATHOUSE, ETC.—For erection of a boathouse and hall. Plans and specification from the architects, Messrs. Connolly & M'Avoy, M.R.I.A.I., Oxford House, 35, Oxford-street, Belfast.

NO DATE.—**Belfast.**—RESIDENCE.—For erection of a residence, Cyprus-avenue. Plans and specification from the architects, Messrs. Connolly & M'Avoy, M.R.I.A.I., Oxford House, Oxford-street, Belfast.

NO DATE. — **Bradford.** — SHOP.—For erecting shop on the land of the Phœnix Dynamo Manufacturing Company, Ltd., Thornbury Works. Plans and specifications at the Company's Works.

NO DATE. — **Chandlersford.** — HOSPITAL.—For the erection of a hospital for infectious diseases at Fryern Hill. Deposit of 5*l.* to Mr. W. Wallace Gandy, Engineer and Surveyor to the Council, Offices of the Council, Eastleigh.

NO DATE. — **Gateshead.**—HALL, ETC.—Erection of new lecture hall and Sunday schools, High West-street Wesleyan Chapel. Architect, Mr. J. Walton Taylor, St. John-street, Newcastle.

NO DATE. — **Long Whatton.** — CHAPEL, ETC.—Erection of new Wesleyan Chapel and Schools at Long Whatton, near Loughborough. Mr. A. E. Lambert, architect, 28, Park-row, Nottingham.

ENGINEERING, IRON, AND STEEL.

FEBRUARY 10. — **Swineshead.** — BRIDGES.—For the repair of West Bridge, over the South Forty-Foot Drain, near Swineshead Station, and High Bridge, over the Old Hammond Beck, Swineshead. Specifications from Mr. Henry Moody, Surveyor, Horncastle-road, Boston.

FEBRUARY 12. — **Wallasey.**—ENGINE, ETC.—For erection of a 500-kw. alternator and Diesel oil engine. Specification from Mr. J. A. Crowther, Engineer and Manager, Electricity Supply Station, Seaview-road, Liscard, Wallasey.

FEBRUARY 14. — **Manchester.** — BRIDGE.—The Lancashire and Yorkshire Railway invite tenders for the widening of a bridge over Hulme Hall-lane, Ardwick Branch. Plans seen, and quantities and specification at the Engineer's Office, Hunts Bank, Manchester.

FEBRUARY 14.—**Pontefract.**—BRIDGE.—For the widening of the bridge over Ferry Bridge-road. Plans seen, and quantities and specification at the Engineer's Office, Hunts Bank, Manchester.

FEBRUARY 17. — **Cardiff.** — CHAMBERS. — For supply of drying chambers for new laundry at Ely Workhouse. Architect, Mr. E. Seward, F.R.I.B.A., Queen's-chambers, Cardiff. Deposit of 1*l.* 1s.

FEBRUARY 26. — **Norwich.** — CISTERNS.—For supply of lead-lined flushing cisterns and water-closet pans. Specification and plan with Mr. A. E. Collins, M.Inst.C.E., City Engineer, Guildhall, Norwich.

FURNITURE, PAINTING, MATERIALS, etc.

FEBRUARY 14. — **London.** — PAINTING. — The Metropolitan Asylums Board invite tenders for cleaning and painting works and repairs at the Park Hospital for Children, Hither Green-lane, Hither Green, S.E. Specification, by Mr. W. T. Hatch, M.Inst.C.E., M.I.Mech.E., Engineer-in-Chief, may be seen at the Office of the Board, Embankment, E.C.; deposit of 1*l.*

FEBRUARY 15. — **Welshpool.** — PAINTING.—For cleaning and renovating of the Wesleyan Church. Specification with Mr. John Potter, No. 4, Pentrefelin-terrace, Welshpool.

* FEBRUARY 20.—**Various.**—ROAD MATERIALS. —The Commissioners of H.M. Works, etc., invite tenders for supply of road materials for one year from April 1 next. See advertisement in this issue for further particulars.

FEBRUARY 21. — **Leeds.**—PAINTING.—For cleaning down, painting, etc., at various police-stations. Specifications seen, and forms of tender from Mr. W. T. Lancashire, City Engineer, Municipal Buildings, Leeds.

FEBRUARY 29. — **Ashford.** — PAINTING. — For painting various buildings, for the Ashford U.D.C. Mr. W. Terrill, Surveyor, 5, North-street, Ashford.

* MARCH 4.—**Stepney.**—PAINTING AND FITTINGS. —The Stepney B.C. invite tenders for supply of fittings at the Libraries, Mile End-road, and also for redecoration. See advertisement in this issue for further particulars.

ROADS, SANITARY AND WATER WORKS.

FEBRUARY 10. — **Burnley.**—MAINS.—For laying and jointing of about 3,390 yds. of 3-in. cast-iron water mains. Form of tender from Mr. H. Pritchard, Engineer.

FEBRUARY 12.—**Blackburn.**—STREETS.—For excavating, forming, and paving streets. Plans and specifications with Mr. W. Stubbs, A.M.Inst.C.E., Borough Engineer, Municipal Offices, Blackburn.

FEBRUARY 12.—**Hull.**—STREET.—For the widening of Saner-street. Forms of tender and particulars from Mr. A. E. White, M.Inst.C.E., City Engineer, Town Hall, Hull.

FEBRUARY 12. — **Reigate.** — GRANITE.—For supply of granite, flints, Kentish ragstone, tar macadam, gravel, chalk, kerbing, etc. Surveyor, Mr. Arthur J. Head, 48, High-street, Reigate, Surrey.

FEBRUARY 12. — **Southam.** — GRANITE. — For supply of granite for repair of highways. Forms of tender from the Surveyor, Mr. H. Pickering, of Southam, Rugby.

FEBRUARY 12. — **South Shields.**—SHAFTS.—For erection of nine sewer ventilating shafts. Plans and specification seen, and particulars from the Surveyor, Council Offices, 1, The Terrace, East Boldon, R.S.O.

FEBRUARY 13.—**Caerphilly.**—SEWER.—For construction of stoneware sewer. Plans and specification seen, and form of tender, on deposit of 1*l.* 1s., from Mr. Alfred O. Harpur, Engineer and Surveyor, Caerphilly.

FEBRUARY 13.—**Galway.**—ROAD.—For improving about 22 miles of public road from Galway to Costello. Mr. W. G. Seymour, Secretary, Courthouse, Galway.

FEBRUARY 13.—**Woodbridge.**—MATERIALS.—For road materials. Mr. George Cook, District Surveyor, Ipswich-road, Woodbridge.

FEBRUARY 14.—**London.**—ROADS.—The Metropolitan Asylums Board invite tenders for repairs to roads at the Brook Fever Hospital, Shooter's Hill-road, Woolwich, S.E. Drawing and specification, by Mr. W. T. Hatch, M.Inst.C.E., M.I.Mech.E., Engineer-in-Chief, seen at the Office of the Board, Embankment, E.C.; deposit of 1*l.*

FEBRUARY 21.—**Goole.**—STORES, ETC.—For the supply of stores and materials. Forms of tender and specifications from Mr. C. G. Bradley, Engineer and Surveyor, Council Offices, Goole.

FEBRUARY 24. — **South Shields.** — CONCRETE.—For providing and laying *in situ* concrete for footways and back streets. Specification, forms of tender from Mr. L. Roseveare, A.M.Inst.C.E., Borough Engineer and Surveyor, Municipal Buildings, South Shields.

FEBRUARY 27.—**Ashton-on-Mersey.**—ROADS.—For making-up four private streets. Plans seen, and specifications and quantities, on deposit of 1*l.* 1s., from Mr. F. Hutton, Surveyor, Council Offices, Ashton-lane, Ashton-on-Mersey.

* FEBRUARY 27. — **Wandsworth.** — SANITARY CONVENIENCES. — The Wandsworth B.C. invite tenders for construction of sanitary conveniences at Tooting and on Clapham Common. See advertisement in this issue for further particulars.

MARCH 5. — **Scunthorpe.** — SEWAGE.—For construction of sewage disposal works. Plans and specification with the Engineer, Mr. Herbert Walker, M.Inst.C.E., King-street, Nottingham. Quantities and form of tender on deposit of 5*l.*

NO DATE. — **Plymouth.** — ROAD. — For the making-up of Sconner-road, on the Antony Building Estate, Torpoint. Mr. W. J. Carder (of Messrs. Carder & Carder), surveyor to the above estate, 24, Lockyer-street, Plymouth.

Auction Sales.

Nature and Place of Sale.	By whom Offered.	Date of Sale.
*BUILDING MATERIALS—On the Site	Veryard & Yates	Feb. 14
*FREEHOLD SITE, SPITALFIELDS—At the Mart	Debenham, Tewson, Richardson, & Co.	Feb. 20
*BUILDER AND CONTRACTOR'S PLANT—Upon the Premises	Wheatley Kirk, Price, & Co.	Feb. 27, 28, 29
*BUILDING SITE, LONG-ACRE, W.C.—At the Mart	Robins, Gore, & Mercer	Mar. 5
*BUILDING SITE, WESTMINSTER—At 20, Hanover-square, W.	Knight, Frank, & Rutley	Mar. 20
*BUILDING SITE, HATTON-GARDEN, E.C.— t the Mart	Farebrother, Ellis, Egerton, Breach, Galsworthy, & Co.	Mar. 21
*BUILDING SITE, ANGEL-COURT, E.C.—At the Mart	Farebrother, Ellis, Egerton, Breach, Galsworthy, & Co.	Mar. 21

LAW REPORT.

Muswell Hill Houses: Appeal Case in Divisional Court.

Cable *v.* Lewis.

On Tuesday, January 30, a Divisional Court of the King's Bench Division, composed of Justices Hamilton and Lush, had before them the case of Cable *v.* Lewis, which came before the Court in the form of a motion by the plaintiff to set aside a judgment of Master Macdonnell.

Mr. David White, appearing with Mr. Williams for Mr. Cable, stated that in this case Mr. Cable was claiming 38*l.* 19s. 1d., the price of some wrought-iron patent window casements, which, he alleged, were ordered by Mr. Lewis for the purpose of being used in buildings the defendant was erecting at Muswell Hill, N. The defendant, Mr. Lewis (said Counsel), was an architect and surveyor, and he had in his employ a man named Curzon, who was a friend of Mr. Cable's. Certain conversations passed between Mr. Curzon and Mr. Cable, and on account of these Mr. Cable called at the premises of Mr. Lewis's firm and saw Mr. Lewis, and pointed out to him the advantages of these window casements. Mr. Lewis said he would use them in these particular buildings, and subsequently Mr. Lewis, in communication to a Mr. Flowerdew, the builder, made references to the casements. In the specifications (Counsel continued) these particular casements were mentioned, and the builder was instructed to use Mr. Cable's patent articles.

Mr. David White went on to say that the man Flowerdew was a man of straw. A large amount of property was accumulating upon these works, and in February, 1906, upon the builder failing, Mr. Lewis, who was architect and owner of the property, came and took the property, and his client (Mr. Cable) was unable to recover anything.

He would submit that under the case of Hobbs *v.* Turner—which was on "all fours" with the present action—Mr. Cable was entitled to recover from Mr. Lewis.

Replying to Mr. Justice Hamilton, Counsel stated that he submitted the goods were delivered to Flowerdew after an order had been given by the defendant. The Master, it was true, had found that in fact Mr. Lewis did not give the order and was not liable, but plaintiff appealed on the point of law. The order was given (he contended) by Mr. Lewis by word of mouth.

Mr. Justice Hamilton: The Master believed Mr. Lewis.

Counsel: Yes, but the correspondence shows that he is wrong.

Mr. Justice Hamilton said he noticed from the documents before him that the Master had said he found as a fact that the order for the casements was not given by the defendant.

Mr. White proceeded to further argue that in this case the building owner, Mr. Lewis, was the architect, and clearly he had taken possession. He added that none of the people who had supplied goods for the seven houses had been paid a penny.

Mr. Justice Lush remarked that whether Mr. Lewis did give the order or not was purely a question of fact.

Counsel said that he asked the Court to give Mr. Cable judgment or leave for a new trial. He mentioned that originally there was application for judgment under Order 14, and the matter was referred to the Master. It ought never to have been referred to the Master.

Mr. J. R. Macoun (for the respondent) stated that the reference was by consent.

Mr. White further argued his case, and handed in the specifications, from which, he said, their Lordships would see that the name of Mr. Cable appeared and a reference to his patent casements. Concluding, he submitted that Mr. Lewis, as the builder, gave the order to himself as architect, and as architect he gave the order to Mr. Cable.

Mr. Justice Lush remarked that Master Macdonnell had found against Mr. Cable on the facts, and it seemed to him that the cases that Counsel had cited had nothing to do with it.

Mr. White replied that in the event of the Court deciding against Mr. Cable he would ask for leave to appeal from their decision, as this was a most important matter so far as builders' merchants were concerned with regard to the supplying of goods in these circumstances.

Without hearing any argument by Mr. Macoun, Mr. Justice Hamilton delivered judgment. His Lordship remarked that the price of the goods was under 40*l.*, and, an issue having been raised that appeared to be one of fact, it was referred to Master Macdonnell, who on hearing the evidence decided in favour of the defendant.

The plaintiff had moved to set the judgment aside, and for judgment to be entered for the plaintiff on two grounds:—(1) That the Master misdirected himself on the facts in holding that the plaintiff had not made out his case; and (2) that he was wrong in law in not holding that the order for the goods was given by the defendant as the real principal. Mr. White had argued that the Master should have found that the plaintiff could recover against the defendant because there was somebody—a man named Flowerdew—who had pledged the defendant's credit for the plaintiff, and established privity of contract between the parties to the action. That, however, did not appear to accord with the evidence actually given before the Master, because, although the plaintiff said he had had an order for the goods given direct by Mr. Lewis, the defendant had sworn that no such order was given, and the Master believed the defendant and not the plaintiff. The case that had been quoted for the appellant did not apply, and the conclusion that the Court had arrived at was, that they could not interfere with the discretion of the Master, and the appeal must therefore be dismissed with costs.

Mr. White raised the question of leave to appeal against this decision, and Mr. Justice Hamilton said: "We do not give leave—you must take your own course."

PATENTS.

APPLICATIONS PUBLISHED.*

269 of 1911.—Joe William Grinshaw and Ralph Thomas Mallalieu: Ventilator terminals and chimney-cowls.

348 of 1911.—Leonard Milne: Electric wiring of buildings.

679 of 1911.—Frederick William Campbell: Concrete piles and the like.

1,053 of 1911.—Edward Le Bas and Herbert Thompson Garvie: Apparatus for pitching and driving piles.

6,151 of 1911.—William Russell: Construction of incombustible and fire-resisting floors, partitions, and the like.

6,791 of 1911.—Charles Bourdon: Radiators for heating buildings, and the like.

7,815 of 1911.—Carron Company, Thomas Bamforth, and George Pate: Stoves, ranges, and the like.

8,161 of 1911.—Willi Herdt and Albert Fraass: Artificial stone and process for making the same.

8,780 of 1911.—Henry Harrison: Reinforced concrete and the like.

10,352 of 1911.—Reginald Wilcox Lone: Bricks.

11,707 of 1911.—John Blair-Mason, John Loudon, and George Allen Lee: Sliding doors.

13,485 of 1911.—Lionel Charles Raymond: Simple traversing-instrument for use in measuring and plotting land areas.

15,656 of 1911.—George Edward Heyl: Manufacture of sheets or blocks for paving and other purposes.

18,521 of 1911. — Johannes Hermanus Hubertus Goossens: Domestic fireplaces.

19,037 of 1911.—James Henry Dunavon: Grate bars.

20,241 of 1911.—Hermann Frank: Radiators for heating buildings and the like.

* All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

January 12.—By C. J. HUGHES & SONS.

Lach Dennis, Cheshire.—Hulse House Farm, four cottages, smithy, and 117 acres, f. £6,185

January 17.—By ERNEST R. OXBORROW.

Ipswich, Suffolk.—Westerfield-rd., Carisbrooke, f., p. 1,260
Westerfield-rd., plot of land, f. 250
128 to 134 (even), Kemball-st., f., w.r. 44*l.* 4s. 365

January 18.—By FRED. TAYLOR & CO.

Chelmsford, Essex.—Anchor Works, f., p. 1,000

January 25.—By WATSON, TEMPLE, & WAYMOUTH.

Great Wakering, etc., Essex.—Trotters and Smithscroft Farms, 165 a. 2 r. 36 p., f. 10,400

By T. LAVINGTON.

Potterne, Wilts.—Whistley Farm, 145 a. 2 r. 23 p., f. 6,850

January 29.—By GEOFFREY F. LOCKWOOD.

Langthorpe, Yorks.—The Grange Farm and Red Lion p.h., 110 acres, f. 6,025

January 30.—By S. WALKER & SON.

Tottenham.—Portland, Houghton, and Pelham roads, f.g. rents 303*l.* 10s., reversion in 64 yrs 6,231

By KNIGHT & CO.

Battersea.—18 and 20, Radstock-st., f., w.r. 49*l.* 8s. 310

By G W. & H. G. POTTER.

Hampstead.—Branch-hill, Lower Lodge, f., w.r. 18*l.* 4s. 515

January 30.—By LEE & FARR.

Slough, Bucks.—1, 2, and 4, Chesterfield pl., f., y. and w.r. 62*l.* 790

By BARBER & SON.

Hodnet, Salop.—Wood Lane Farm, 141 acres, f. 6,581
Three cottages and 1 a. 0 r. 26 p., f. 780

January 31.—By BAKER & CO.

Kingston-on-Thames.—Cromwell-rd., picture theatre, f. 3,500

By BEARD & SON.

Enfield.—26, Church-st. (s.), u.t. 83 yrs., g.r. 11*l.*, y.r. 11*l.* 1,425
Fulham.—154, Wandsworth Bridge-rd. (s.), f., y.r. 50*l.* 700
Bayswater.—6 and 8, Richmond-rd. (s.), f., y.r. 195*l.* 2,700
Victoria-pl., f.g.r. 7*l.*, reversion in 34 yrs. 180
Harlesden.—62, Craven Park-rd. (s.), u.t. 52 yrs., g.r. 6*l.*, y.r. 90*l.* 775
Bayswater.—116, Talbot-rd. (s.), u t. 55 yrs., g.r. 12*l.* 12s., y.r. 60*l.* 380
Paddington.—564, Harrow-rd. (s.), u.t. 66 yrs., g.r. 12*l.*, y.r. 100*l.* 1,170

By LETHABY & LETHABY.

Leigh-on-Sea.—Oakley Park-drive, etc., six plots, f. 170

By ST. QUINTIN, SON, & STANLEY.

Notting Hill.—Clarendon-rd., f.g. rents 56*l.*, reversion in 29 yrs. 1,880
Clarendon-rd., plot of land, f. 145
Silchester-rd., f.g. rents 29*l.* 14s., reversion in 31 yrs. 855
Walmer-rd., f.g. rents 26*l.*, reversion in 29 yrs. 600
Walmer-rd.. f.g. rents 2*l.*, reversion in 31 yrs. 750
Walmer-rd., f.g. rents 17*l.* 16s. 3d., reversion in 32 yrs. 470
Walmer-rd., f g. rents 82*l.*, reversion in 29 yrs. 1,630
Walmer-rd., l.g. rents 65*l.* 5s., u.t. 30 yrs., g.r. 32*l.* 16s. 3d. 442

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; p. for possession; e.r. for estimated rental; w.r. for weekly rental; q.r. for quarterly rental; y.r. for yearly rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; la. for lane; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; av. for avenue; gdns. for gardens; yd. for yard; gr. for grove; b.h. for beerhouse; p.h. for public-house; o. for offices; s. for shops; ct. for court.

PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

Per 1000 Alongside, in River.

	£ s. d.
Best Stocks	1 14 0
Picked Stocks for Facings	2 7 0

Per 1000, Delivered at Railway Depôt.

	£ s. d.		£ s. d.
Flettons	1 12 0	Best Blue Pressed Staffordshire	3 15 0
Best Fareham Red	3 12 0	Do. Bullnose	4 0 0
Best Red Pressed Ruabon Facing	5 0 0	Best Stourbridge Fire Bricks	4 0 0

GLAZED BRICKS—

Best White, Ivory, and Salt Glzd.Str'tch'rs	11 7 6	Double Headers	13 17 6
Headers	10 17 6	One Side and two Ends	17 17 6
Quoins, Bullnose, and 4½ in. Flats	14 17 6	Two Sides and one End	18 17 6
D'ble Stretchers	16 17 6	Splays & Squints	16 7 6

Second Quality £1 10s. per 1000 less than best.

	s. d.	
Thames and Pit Sand	6 9	per yard, delivered.
Thames Ballast	5 6	" "
Best Portland Cement	31 0	per ton, "
Best Ground Blue Lias Lime	19 0	" "

NOTE—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime ..... 13s. 0d. per yard delivered.
Stourbridge Fireclay in sacks 27s. 0d. per ton at rly dpt.

STONE.

Per Ft. Cube.

	s. d.
BATH STONE — delivered on road waggons, Paddington Depôt	1 6½
Do. do. delivered on road waggons, Nine Elms Depôt	1 8½
PORTLAND STONE (20 ft. average)—	
Brown Whitbed, delivered on road waggons, Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2 3
White Basebed, delivered on road waggons Paddington Depôt, Nine Elms Depôt, or Pimlico Wharf	2 4½

Per Ft. Cube, delivered at Railway Depôt.

	s. d.		s. d.
Ancaster in blocks..	1 10	Closeburn Red Freestone	2 0
Beer in blocks	1 6	Red Mansfield Freestone	2 4
Greenshill in blocks	1 10	Talacre & Gwespyr Stone	2 8
Darley Dale in blocks	2 4		
Red Corsehill in blocks	2 3		

YORK STONE—*Robin Hood Quality.*

Per Ft. Cube, Delivered at Railway Depôt.	s. d.
Scappled random blocks	2 10

Per Ft. Super., Delivered at Railway Depôt.

6 in. sawn two sides landings to sizes (under 40 ft. super.)	2 3
6 in. rubbed two sides ditto, ditto	2 6
3 in. sawn two sides slabs (random sizes)	0 11½
2 in. to 2½ in. sawn one side slabs (random sizes)	0 7
1¼ in. to 2 in. ditto, ditto	0 6

HARD YORK—

Per Ft. Cube, Delivered at Railway Depôt.	
Scappled random blocks	3 0

Per Ft. Super., Delivered at Railway Depôt.

6 in. sawn two sides landing to sizes (under 40 ft. super.)	2 8
6 in. rubbed two sides ditto	3 0
3 in. sawn two sides slabs (random sizes)	1 2
2 in. self-faced random flags	0 5

SLATES.

Per 1000 of 1200 at Railway Depôt.

In. In.	£ s. d.	In. In.	£ s. d.
20×10 best blue Bangor	13 2 6	20×10 best Eur'ka unfading green	15 17 6
20×12 ditto	13 17 6	20×12 ditto	18 7 6
20×10 1st quality ditto	13 0 0	18×10 ditto	13 5 0
20×12 ditto	13 15 0	16×8 ditto	10 5 0
16×8 ditto	7 5 0	20×10 permanent green	11 12 6
22×10 best blue Portmadoc	12 12 6	18×10 ditto	9 12 6
16×8 ditto	6 12 6	16×8 ditto	6 12 6

TILES.

At Railway Depôt.

	s. d.		s. d.
Best plain red roofing (per 1000)	42 0	Best "Hartshill" brand, plain sand-faced (per 1000)	50 0
Hip and Valley (per doz.)	3 7	Do. pressed (per 1000)	47 6
Best Broseley (per 1000)	50 0	Do. Ornamental (per 1000)	50 0
Do. Ornamental (per 1000)	52 6	Hip (per doz.)	4 0
Hip and Valley (per doz.)	4 0	Valley (per doz.)	3 6
Best Ruabon red, brown, or brindled (Edw'ds) (per 1000)	57 6	Staffords. (Hanley) Reds or Brindled (per 1000)	42 6
Do. Ornamental (per 1000)	60 0	Hand-made sand-faced (per 1000)	45 0
Hip (per doz.)	4 0	Hip (per doz.)	4 0
Valley (per doz.)	3 0	Valley (per doz.)	3 6

WOOD.

BUILDING WOOD.	At per standard. £ s. d.		£ s. d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.	14 0 0	...	15 10 0
Deals: best 3 by 9	13 10 0	...	14 10 0

WOOD (*Continued*).

BUILDING WOOD (*Continued*).	At per standard. £ s. d.			£ s. d.
Battens: best 2½ in. by 7 in. and 8in., and 3 in. by 7 in. and 8 in.	11 10 0	...		12 10 0
Battens: best 2½ by 6 and 3 by 6...	0 10 0			less than 7 in. and 8 in.
Deals: seconds	1 0 0			less thn best.
Battens: seconds	0 10 0	"		"
2 in. by in. and 2 in. by 6 in. ...	9 10 0	...		10 10 0
2 in. by 4½ in. and 2 in. by 5 in.	9 0 0	...		10 0 0
Foreign Sawn Boards—				
1 in. and 1¼ in. by 7 in.	0 10 0			more than battens.
	1 0 0			"
¼ in.	At per load of 50 ft.			
Fir timber: best middling Danzig or Memel (average specification)	5 0 0	...		5 10 0
Seconds	4 10 0	...		5 0 0
Small timber (8 in. to 10 in.) ...	3 17 6	...		4 0 0
Small timber (6 in. to 8 in.)	3 5 0	...		3 10 0
Swedish balks	2 12 6	...		3 0 0
Pitch-pine timber (30 ft. average)	5 5 0	...		6 0 0
JOINERS' WOOD.	At per standard.			
White Sea: first yellow deals, 3 in. by 11 in.	24 10 0	...		25 10 0
3 in. by 9 in.	22 10 0	...		23 10 0
Battens, 2½ in. and 3 in. by 7 in.	17 0 0	...		18 0 0
Second yellow deals, 3in. by 11in.	19 0 0	...		20 0 0
" " 3 in. by 9 in.	18 0 0	...		19 10 0
Battens, 2½ in. and 3in. by 7 in.	14 0 0	...		15 0 0
Third yellow deals, 3 in. by 11 in. and 9 in.	14 0 0	...		15 0 0
Battens, 2½ in. and 3 in. by 7 in.	11 10 0	...		12 10 0
Petersburg: first yellow deals, 3 in. by 11 in.	21 10 0	...		22 10 0
Do. 3 in. by 9 in.	18 10 0	...		19 10 0
Battens	14 0 0	...		15 0 0
Second yellow deals, 3 in. by 11 in.	16 10 0	...		17 10 0
Do. 3 in. by 9 in.	15 0 0	...		16 0 0
Battens	11 10 0	...		12 10 0
Third yellow deals, 3in. by 11 in.	13 10 0	...		14 10 0
Do. 3 in. by 9 in.	13 0 0	...		14 0 0
Battens	10 10 0	...		11 0 0
White Sea and Petersburg—				
First white deals, 3 in. by 11 in.	15 0 0	...		16 0 0
" " 3 in. by 9 in.	14 0 0	...		14 10 0
Battens	11 10 0	...		12 10 0
Second white deals, 3in. by 11in.	14 0 0	...		15 0 0
" " 3 in. by 9 in.	13 0 0	...		14 0 0
Battens	10 10 0	...		11 0 0
Pitch-pine: deals	19 0 0	...		21 0 0
Under 2 in. thick extra	0 10 0	...		1 0 0
Yellow Pine—First, regular sizes	48 0 0			upwards.
Oddments	32 0 0			"
Seconds, regular sizes	33 0 0			"
Oddments	28 0 0			"
Kauri Pine—Planks per ft. cube.	0 4 6	...		0 6 0
Danzig and Stettin Oak Logs—				
Large, per ft. cube	0 3 0	...		0 3 9
Small " "	0 2 6	...		0 2 6
Wainscot Oak Logs, per ft. cube	0 6 6	...		0 8 0
Dry Wainscot Oak, per ft. sup. as inch	0 0 10	...		0 1 0
¼ in. do. do.	0 0 8½	...		—
Dry Mahogany—Houndras, Tabasco, per ft. super. as inch..	0 0 10	...		0 1 1
Selected, Figury, per ft. super. as inch	0 1 6	...		0 2 6
Dry Walnut, American, per ft. super. as inch	0 0 10	...		0 1 0
Teak, per load	18 0 0	...		22 0 0
American Whitewood planks, per ft. cube	0 5 0	...		0 6 0
Prepared Flooring, etc.—	Per square.			
1 in. by 7 in. yellow, planed and shot	0 13 6	...		0 17 0
1 in. by 7 in. yellow, planed and matched	0 14 0	...		0 18 0
1¼ in. by 7 in. yellow, planed and matched	0 16 0	...		1 0 0
1 in. by 7 in. white, planed and shot	0 12 0	...		0 14 6
1 in. by 7 in. white, planed and matched	0 12 6	...		0 15 0
1¼ in. by 7 in. white, planed and matched	0 15 0	...		0 16 6
¾ in. by 7 in. yellow, matched and beaded or V-jointed brds.	0 11 0	...		0 13 6
1 in. by 7 in. " "	0 14 0	...		0 18 6
¾ in. by 7 in. white " "	0 10 0	...		0 11 0
1 in. by 7 in. " "	0 12 9	...		0 15 0

6 in. at 6d. to 9d. per square less than 7 in.

JOISTS, GIRDERS, &c.

	In London, or delivered Railway Vans, per ton. £ s. d.		£ s. d.
Rolled Steel Joists, ordinary sections	7 10 0	...	8 0 0
Compound Girders, ordinary sections	9 10 0	...	10 0 0
Steel Compound Stanchions	11 0 0	...	12 0 0
Angles, Tees, and Channels, ordinary sections	9 10 0	...	10 0 0
Flitch Plates	9 10 0	...	9 10 0
Cast Iron Columns & Stanchions, including ordinary patterns	7 10 0	...	8 10 0

METALS.

IRON—	Per ton, in London. £ s. d.		£ s. d.
Common Bars	9 0 0	...	9 10 0
Staffordshire Crown Bars, good merchant quality	9 5 0	...	9 15 0
Staffordshire "Marked Bars"	11 0 0	...	—
Mild Steel Bars	9 5 0	...	9 15 0
Hoop Iron, basis price	10 0 0	...	—
" " Galvanised	17 10 0	...	—
("And upwards, according to size and gauge.)			
Sheet Iron Black—			
Ordinary sizes to 20 g.	10 5 0	...	—
" " 24 g.	11 5 0	...	—
" " 26 g.	12 15 0	...	—
Sheet Iron, Galvanised, flat, ordinary quality—			
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	15 10 0	...	—
Ordinary sizes to 22 g. and 24 g.	16 0 0	...	—
" " 26 g.	17 0 0	...	—
Sheet Iron, Galvanised, flat, best quality—			
Ordinary sizes to 20 g.	18 10 0	...	—
" " 22 g. and 24 g.	19 0 0	...	—
" " 26 g.	20 10 0	...	—

METALS (*Continued*).

IRON (*Continued*)—	Per ton, in London. £ s. d.		£ s. d.
Galvanised Corrugated Sheets—			
Ordinary sizes, 6ft. to 8ft. 20 g.	15 0 0	...	—
" " 22 g. and 24 g.	15 5 0	...	—
" " 26 g.	16 15 0	...	—
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	12 10 0	...	—
Best Soft Steel Sheets, 2 g. & 24 g.	13 10 0	...	—
" " " 26 g.	15 10 0	...	—
Cut Nails, 3 in. to 6 in.	11 0 0	...	11 10 0
(Under 3 in., usual trade extras.)			

LEAD, &c.

	£ s. d.		
LEAD—Sheet, English, 4lb. and up	19 10 0	...	—
Pipe in coils	20 0 0	...	—
Soil pipe	23 0 0	...	—
Compo pipe	23 0 0	...	—
ZINC—Sheet—	In casks of 10 cwt.		
Vielle Montagne	33 10 0	...	—
Silesian	33 5 0	...	—
Zinc, in bundles, 1s. per cwt. extra.			
COPPER—			
Strong Sheet ..... per lb.	0 1 0	...	—
Thin " ..... "	0 1 1	...	—
Copper nails ..... "	0 0 10	...	—
Copper wire ..... "	0 0 10	...	—
BRASS—			
Strong Sheet ..... "	0 0 11	...	—
Thin ..... "	0 1 0	...	—
TIN—English Ingots ..... "	0 1 11	...	—
SOLDER—Plumbers' ..... "	0 0 8½	...	—
Tinmen's ..... "	0 0 11	...	—
Blowpipe ..... "	0 1 2	...	—

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.*

Per Ft., Delivered.

15 oz. thirds	2½d.	26 oz. fourths	3½d.
" fourths	1½d.	32 oz. thirds	5d.
21 oz. thirds	3d.	" fourths	4½d.
" fourths	2⅝d.	Fluted Sheet, 15 oz.	3½d.
26 oz. thirds	4d.	" 21 oz.	4½d.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.*

Per Ft., Delivered.

⅛ Hartley's	2d.	Figured Rolled, Oxford Rolled, Oceanic, Arctic, Muffled, and Rolled Cathedral, white	3½d.
3/16 "	2½d.	Ditto, tinted	5d.
¼ "	2½d.		

* Not less than three crates.

OILS, &c.

		£ s. d.
Raw Linseed Oil in pipes	per gallon	0 3 4
" " " in barrels	"	0 3 5
" " " in drums	"	0 3 7
Boiled " in barrels	"	0 3 7
" " " in drums	"	0 3 10
Turpentine in barrels	"	0 2 11
" in drums	"	0 3 1
Genuine Ground English White Lead,	per ton	26 10 0
Red Lead, Dry	"	23 5 0
Best Linseed Oil Putty	per cwt.	0 10 0
Stockholm Tar	per barrel	1 12 0

VARNISHES, &c.

	Per gallon. £ s. d.
Fine Pale Oak Varnish	0 8 0
Pale Copal Oak	0 10 6
Superfine Pale Elastic Oak	0 12 6
Fine Extra Hard Church Oak	0 10 0
Superfine Hard-drying Oak, for seats of Churches	0 14 6
Fine Elastic Carriage	0 12 0
Superfine Pale Elastic Carriage	0 16 0
Fine Pale Maple	0 10 0
Finest Pale Durable Copal	0 18 0
Extra Pale French Oil	1 1 0
Eggshell Flating Varnish	0 18 0
White Pale Enamel	1 4 0
Extra Pale Paper	0 12 0
Best Japan Gold Size	0 10 6
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 8 0
Berlin Black	0 16 0
Knotting	0 10 9
French and Brush Polish	0 10 6

TO CORRESPONDENTS.

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TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 10 *a.m. on Thursday.* [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 100*l.* unless in some exceptional cases and for special reasons.]

* Denotes *accepted.* † Denotes *provisionally accepted.*

BELTURBET.—For alterations and additions to shop and dwelling-house, for Messrs. Quinn Bros., drapers. Mr. P. J. Brady, C.E., architect, Ballyhaise:—

J. McMahon, jun., Clones ..... £275‡

‡ Exclusive of shopfitting.

COVENTRY.—For new machine shops, Foleshill, for Messrs. Webster & Bennett, Ltd. Messrs. Tait & Herbert, architects, Leicester and Coventry. Quantities by architects:—

Steelwork.

Redpath, Brown, & Co., Manhester* £1,650

Builders' Work.

Messrs. Bentley & Co., Leicester.* 1,560

GUILDFORD.—For erection of eight cottages in Cline-road, for the Town Council. Mr. C. G. Mason, Borough Surveyor, Guildford:—

Wakeham Bros.	£2,377 0 0	E. Ricks	£1,712 0 0
Williams & Co.	2,143 13 4	W. Bullen	1,699 0 0
C. & F. Allwork	2,067 0 0	W. Sanderson	1,655 0 0
Playfair & Toole	1,975 10 8	Turner & Kersley	1,597 0 0
R. Smith	1,839 0 0	J. L. Aldridge	1,402 0 0
F. A. Renn	1,805 0 0	Greenwood & Sons	1,392 0 0
Sandell & Sons	1,726 0 0	Drowley & Co.,	
T. Carn	1,719 0 0	Woking*	1,368 0 0

GUILDFORD.—For erection of twelve cottages in Cline-road, for the Town Council of the Borough of Guildford. Mr. T. J. Capp, architect, Guildford:—

Wakeham Bros.	£3,483 0	T. Carn	£2,385 0
Williams & Co.	3,320 0	E. Ricks	2,345 0
Playfair & Toole	2,979 0	Drowley & Co	2,290 0
Hellyer & Cripps	2,940 0	C. & F. Allwork	2,133 0
R. Smith	2,784 0	Greenwood & Sons	2,040 0
F. A. Renn	2,732 0	W. Bullen,	
W. Sanderson	2,600 0	Guildford*	2,032 0
Sandell & Sons	2,578 0	J. L. Aldridge	1,917 17
Turner & Kersley	2,395 0		

HALE.—For construction of a stoneware pipe sewer. Mr. T. Blagburn, Council Surveyor, Hale:—

H. A. Jones	£706 0 0	W. Watson, jun.	£600 13 0
J. Hamilton & Son	670 0 0	S. Johnson & Son	597 10 0
J. Randall	657 18 0	W. Snape & Sons	584 17 6
W. P. Meikle	649 3 2	Whittaker Bros.,	
G. Bozson	614 0 0	Flixton*	493 15 6
W. H. Worthington, Ltd.	605 3 6		

LONDON.—For renewal of roofs of the refreshment-buildings and Foxburrows cottages at Hainault Forest, for the London County Council:—

Hall & Co. (Croydon), Ltd.	£408 17 5
Roberts, Adlard, & Co.	399 17 6
Bingley, Son, & Follit, Ltd.	350 4 5
J. Williams & Co.	304 0 0
J. J. Etridge, jun., Ltd., Bethnal Green*	300 0 0

LONDON.—For erection of oak boundary fencing along the Spring-hill boundary of Springfield Park, for the London County Council:—

W. Bowen	£102 0 0
B. Horton & Son	101 4 0
J. Stenning & Son, Ltd.	100 10 0
W. Stenning & Son	99 0 0
J. & S. Agate, Ltd.	88 14 9

[The estimate of the Chief Officer of the Parks Department, comparable with the tenders, is £101.]

LONDON.—For erection of conveniences at the Victoria Embankment-gardens, for the London County Council:—

F. & H. F. Higgs	£1,460 0
Charles Wall, Ltd.	1,420 0
Rowley Bros.	1,381 0
Holloway Bros. (London), Ltd.	1,370 0
J. & C. Bowyer, Ltd.	1,348 0
Gathercole Bros.	1,325 15
W. L. Holloway	1,320 0
E. Lawrance & Sons, Ltd.	1,288 0
W. Johnson & Co., Ltd., Wandsworth-common, S.W.*	1,215 0

LONDON.—For the supply of fifty sets of truss plates, for the London County Council:—

	Prices for Fifty Sets.
S. H. Heywood & Co., Ltd.	£1,150 0
East Ferry-road Engineering Works Co., Ltd.	750 0
Brush Electrical Engineering Co., Ltd.	700 0
United Electric Car Co, Ltd.	650 0
Hurst, Nelson, & Co., Ltd., Motherwell, N.B.*	487 10

[The estimate of the Chief Officer of Tramways, comparable with the tenders, is £500.]

LONDON.—For proposed shop fronts, etc., at 134, Uxbridge-road, West Ealing, for Messrs. Jones & Knights. Mr. T. Jay Evans, architect and surveyor, 61, Munster-road, Fulham, S.W.:—

James Glover	£495	Stanley Jones & Co.	£427
S. Haskins & Bros.	492	Arnold & Sansum	398
F. Sage & Co.	468	E. Pollard & Co.	395

LONDON.—For the manufacture, supply, and delivery of (*i*) about 3,550 tons of track rails and fastenings, and (*ii*) about 1,050 tons of slot rails and 400 tons of conductor tees, required in connexion with the construction or reconstruction of portions of the Council's tramways, for the London County Council :—

(i) Track Rails and Fastenings.

	Rails of Carbon Steel.	Rails of Sandberg High-Silicon Steel.
C. Laird & Co., Ltd.	£34,848 15 0	£36,623 15 0
Barrow Hæmatite Steel Co., Ltd.	28,051 17 6	—
Bolckow, Vaughan, & Co., Ltd.	26,165 12 6	27,940 12 6
W. Scott, Ltd.	24,867 10 0	26,592 10 0
P. & W. MacLellan, Ltd. (manufactured by the North-Eastern Steel Co., Ltd., Middlesbrough)‡	27,260 4 2	29,035 4 2
P. & W. MacLellan, Ltd. (manufactured at Phœnix Works, Ruhrort, Germany)	22,189 16 3	22,915 1 8
Scholey & Co., Ltd. (manufactured at Phœnix Works, Ruhrort, Germany)	21,848 15 0	22,563 15 0
Bolling & Lowe (manufactured at Phœnix Works, Ruhrort, Germany)	21,848 15 0	22,563 15 0

[The Chief Engineer's estimates, comparable with the tenders, are £24,612 10s. for rails of carbon steel and £26,760 15s. for rails of high-silicon steel.]

(ii) Slot Rails and Co ductor Tees.

Bolling & Lowe, Ltd. (manufactured at Phœnix Works, Ruhrort, Germany)	£13,992 10
Steel, Peech, & Tozer, Ltd.	13,925 0
P. & W. MacLellan, Ltd. (manufactured by North-Eastern Steel Co., Ltd. (Middlesbrough)	13,405 0
W. Scott, Ltd.	12,848 15
Frodingham Iron and Steel Co., Ltd.	12,607 10

[The Chief Engineer's estimate, comparable with the tenders, is £12,345.]

‡ Alternative tender.

LONDON.—For structural improvements at the Morden-terrace School, Greenwich, for the London County Council :—

Stevens & Sons	£980 0 0
Palowkar & Sons	960 0 0
Hayward Bros. & Eckstein, Ltd.	865 1 6
J. Yeiton & Co., Ltd.	835 0 0
Ashwell & Nesbit, Ltd.	832 0 0
Cannon & Hefford	798 0 0
Brightside Foundry and Engineering Co., Ltd.	797 0 0
G. & E. Bradley	797 0 0
W. G. Cannon & Sons, Ltd.	795 0 0

[The Architect's estimate, comparable with the tenders, is £850.]

NUNEATON.—For supplying a 500-kw mixed-pressure turbo-generator with condensing plant, etc. Mr. S. C. Gibson, Borough Electrical Engineer :—

Section I.

Dick, Kerr, & Co., Ltd.	£3,150 0
British Westinghouse Co., Ltd.	2,932 0
C. A. Parsons & Co.	2,793 0
Richardsons, Westgarth, & Co.	2,720 0
J. Howden & Co., Ltd.	2,550 0
British Thompson Houston Co.	2,545 0
Belliss & Morcom, Ltd.	2,528 0
Willans & Robinson, Ltd., Rugby*	2,363 0
Brush Electrical Engineering Co.	2,307 10

Sections II.a and III.

Mirrlees, Watson, & Co., Ltd.	£1,158
Richardsons, Westgarth, & Co., Ltd.	1,138
J. Howden & Co., Ltd.	1,115
Cole, Marchant, & Morley, Ltd.	1,046
Belliss & Morcom, Ltd.	1,034
C. A. Parsons & Co., Ltd.	1,016
Brush Electrical Engineering Co., Ltd.	940 / 910‡
British Westinghouse Co., Ltd.	855
Worthington Pump Co.	952 / 784‡
Willans & Robinson, Ltd., Rugby*	840 / 1,040‡

Alternative Scheme—Sections II.b and III.

Mirrlees, Watson, & Co.	£675
Brush Electrical Engineering Co.	628
Richardsons, Westgarth, & Co.	600
Ledward & Beckett	576
Korting Bros., Ltd.	555
C. A. Parsons & Co.	554
Willans & Robinson, Ltd.	547
British Westinghouse Co., Ltd.	526
Rees Roturbo Manufacturing Co., Ltd.	520
Worthington Pump Co.	515
E. Deane & Beal, Ltd.	505

‡ Alternative scheme.

TEWKESBURY.—For filter tank and filter house at Tewkesbury :—

—	Filter Tank.	Filter House.	Total.
	£ s. d.	£ s. d.	£ s. d.
C. Moss & Co.	1,279 19 0	1,047 12 0	1,327 11 0
Hobrough & Co.	1,252 0 6	1,017 14 8	2,279 15 2
J. Wilson & Sons	1,177 18 4	1,044 0 0	2,221 18 4
T. Smart	1,152 7 10	950 16 8	2,103 4 6
Childs & Withers	1,112 9 2	958 10 5	2,070 19 7
J. Riley	1,031 9 7	950 10 5	1,982 6 0
A. Braithwaite & Co.	1,080 6 7	892 19 9	1,973 6 4
Collins & Godfrey	1,061 10 1	904 7 7	1,965 17 8
R. Pittard & Son	1,020 18 10	934 18 4	1,955 17 2
W.T. Nicholls	1,015 2 2	913 19 8	1,929 1 10
W. Bowers & Co.	1,034 7 11	890 16 6	1,923 4 5
W. Williams & Co.	1,010 7 9	900 8 4	1,910 16 1
A. Hyslop	943 9 7	949 3 7	1,892 13 2
T. J. Mason, Stourbridge*.	903 8 9	881 13 5	1,785 2 2

SHEPHERD'S BUSH.—For the proposed extension of premises at 178, 180, 182, 184, Uxbridge-road, Shepherd's Bush. Mr. Thos. Jay Evans, M.S.A., architect and surveyor, 31, Munster-road, Fulham, S.W. :—

G. W. Clarke	£1,794	Lyne & Sons	£1,720
T. H. Kingerlee & Sons	1,775	Jones Bros.	1,642

SOUTHWOLD.—For erection of a mortuary, for the Corporation. Mr. B. King, Borough Surveyor :—

F. Bennett	£110 0	W. B. Miller, Southwold*	£54 0
J. Thompson	60 10		
B. H. Carter	59 10		

SOUTHWOLD.—For 600 cubic yds. broken Kent flints delivered Southwold Harbour. Mr. B. King, Borough Surveyor :—

	Per Cubic Yard.
	s. d.
W. R. Cunis, Ltd.	6 0
C. W. Parker	5 6
L. West, Ltd.	5 5
Smeed, Dean, & Co.	5 3

SUNNINGDALE.—For alterations and additions to the Dormy House Club. Messrs. Roberts & Smith, architects and surveyors, Sunningdale :—

Trollope & Colls	£7,700	Norris & Co.	£6,227
Howard & Co.	6,500	E. C. Hughes	6,090
J. H. Wakelin	6,425	W. Watson	5,985
H. Charman	6,300		

WAKEFIELD.—For private street works in Carter-street. Mr. J. P. Wakeford, A.M.Inst.C.E., City Surveyor :—

Wilson Bros., Park-lane, Wakefield... £525 13 3

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Watson 5,995

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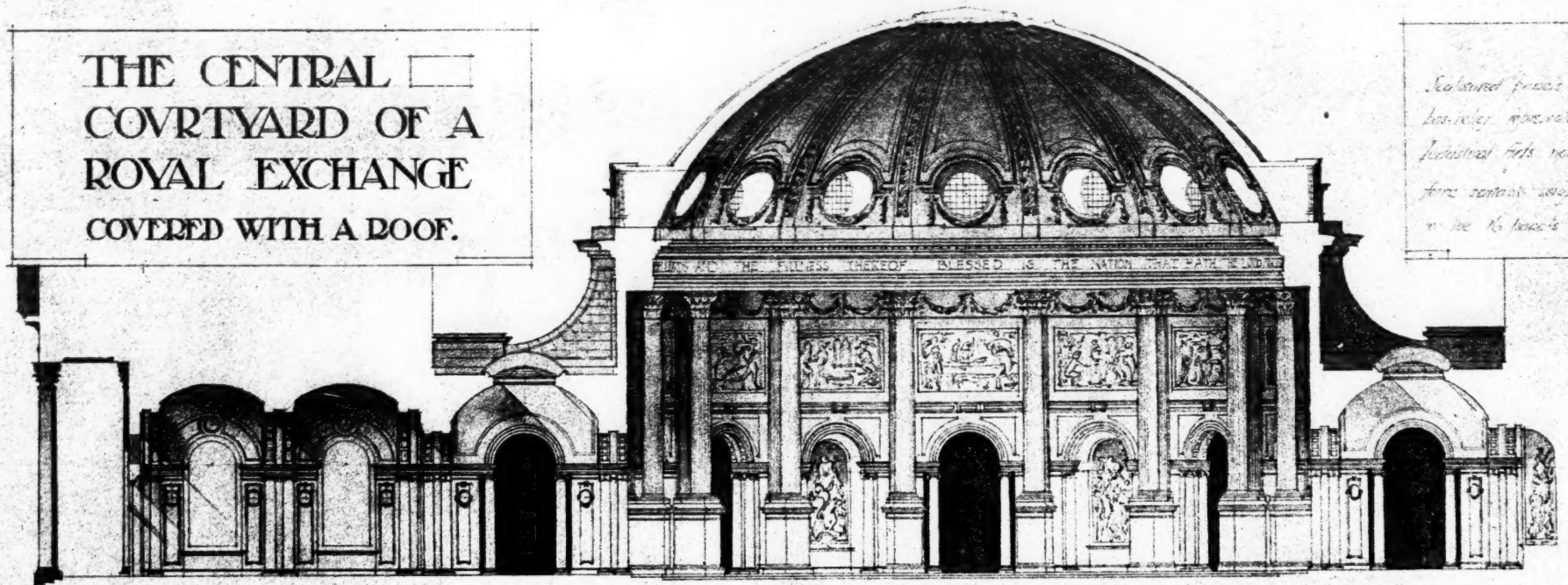
THE CENTRAL COVRTYARD OF A ROYAL EXCHANGE COVERED WITH A ROOF.

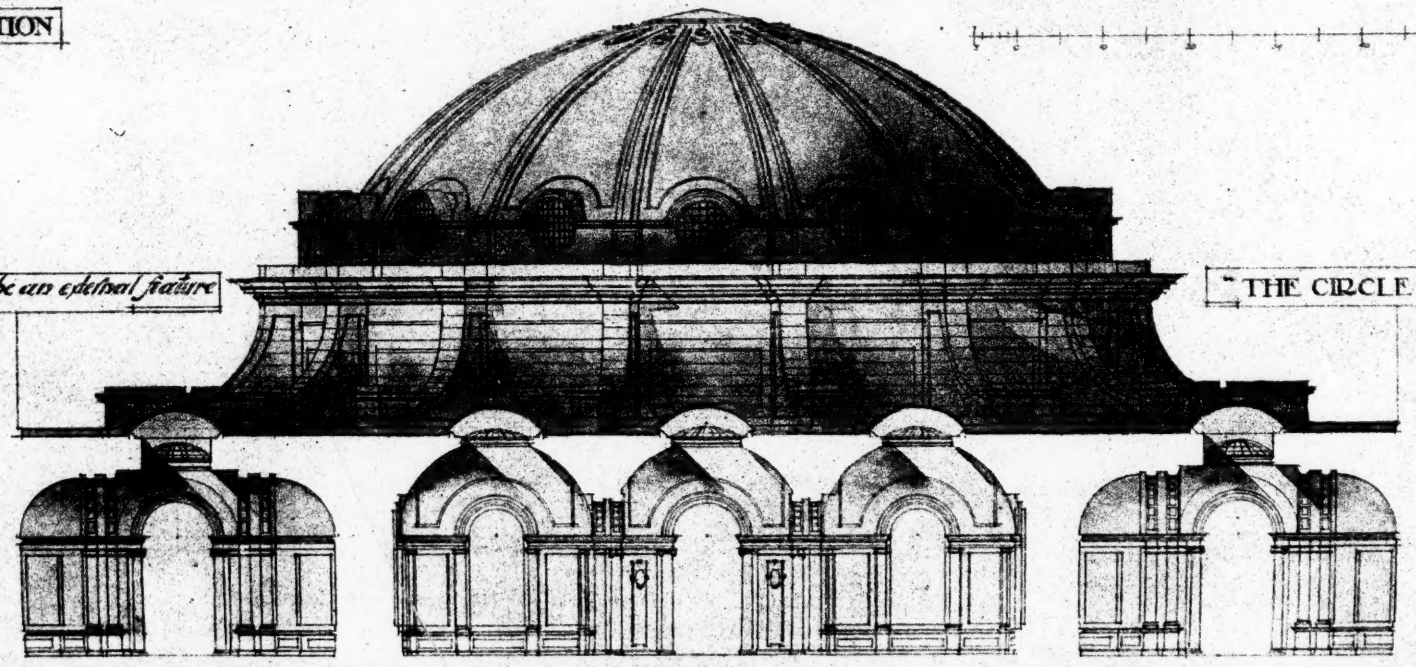
Sculptured groups in bas-relief representing Industrial Arts round three sides of the building



LONGITVDINAL SECTION

The dome was not designed to be an external feature

The surrounding Offices and Shops.



"THE CIRCLE"

CROSS SECTION

"INK-PHOTO" SPRAGUE & Co LTD 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

R. I. B. A. TITE PRIZE: CERTIFICATE OF HON. MENTION—MR. THOMAS H. CHALKLEY.

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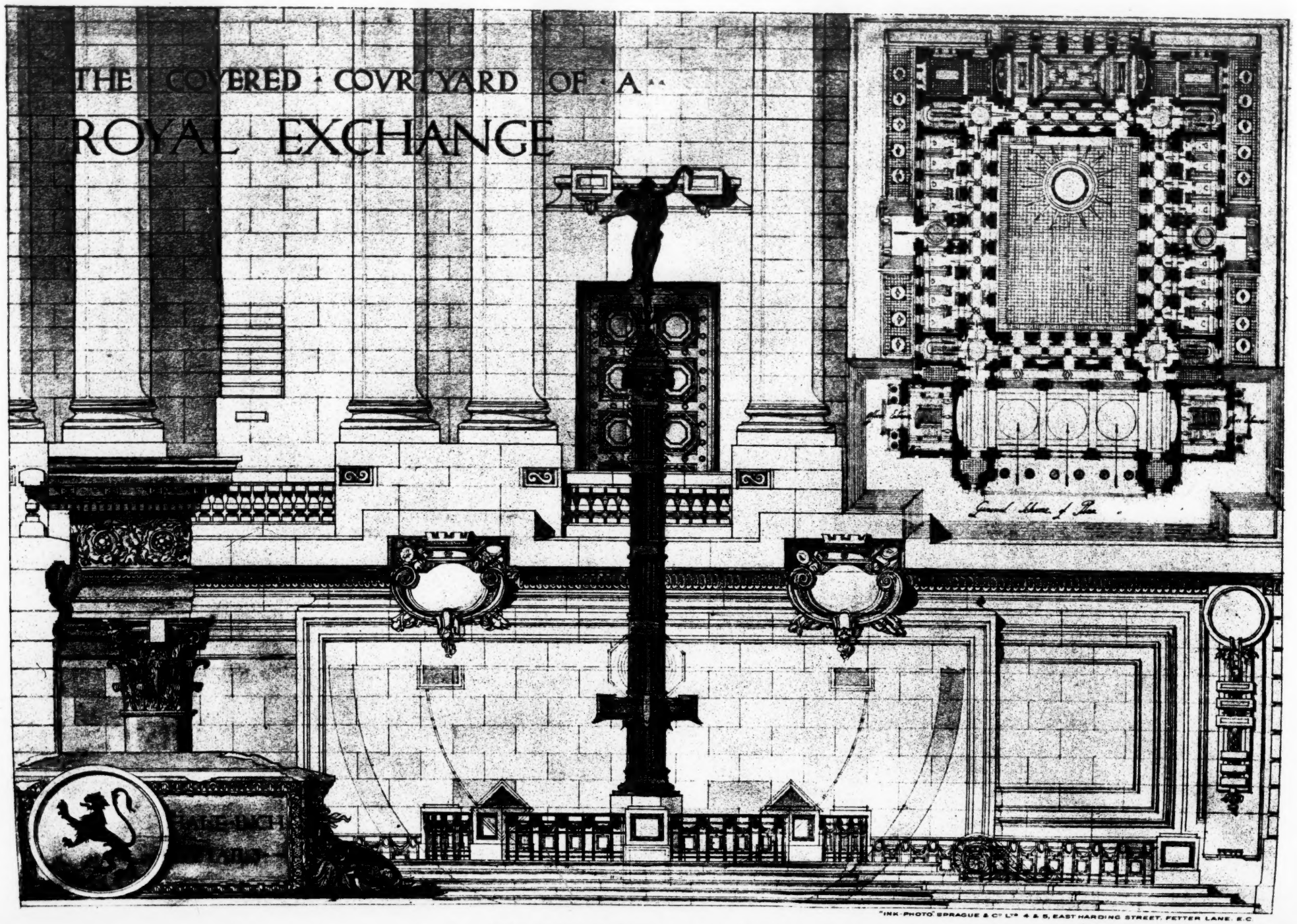
"INK-PHOTO" SPRAGUE & Co" L™ 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.



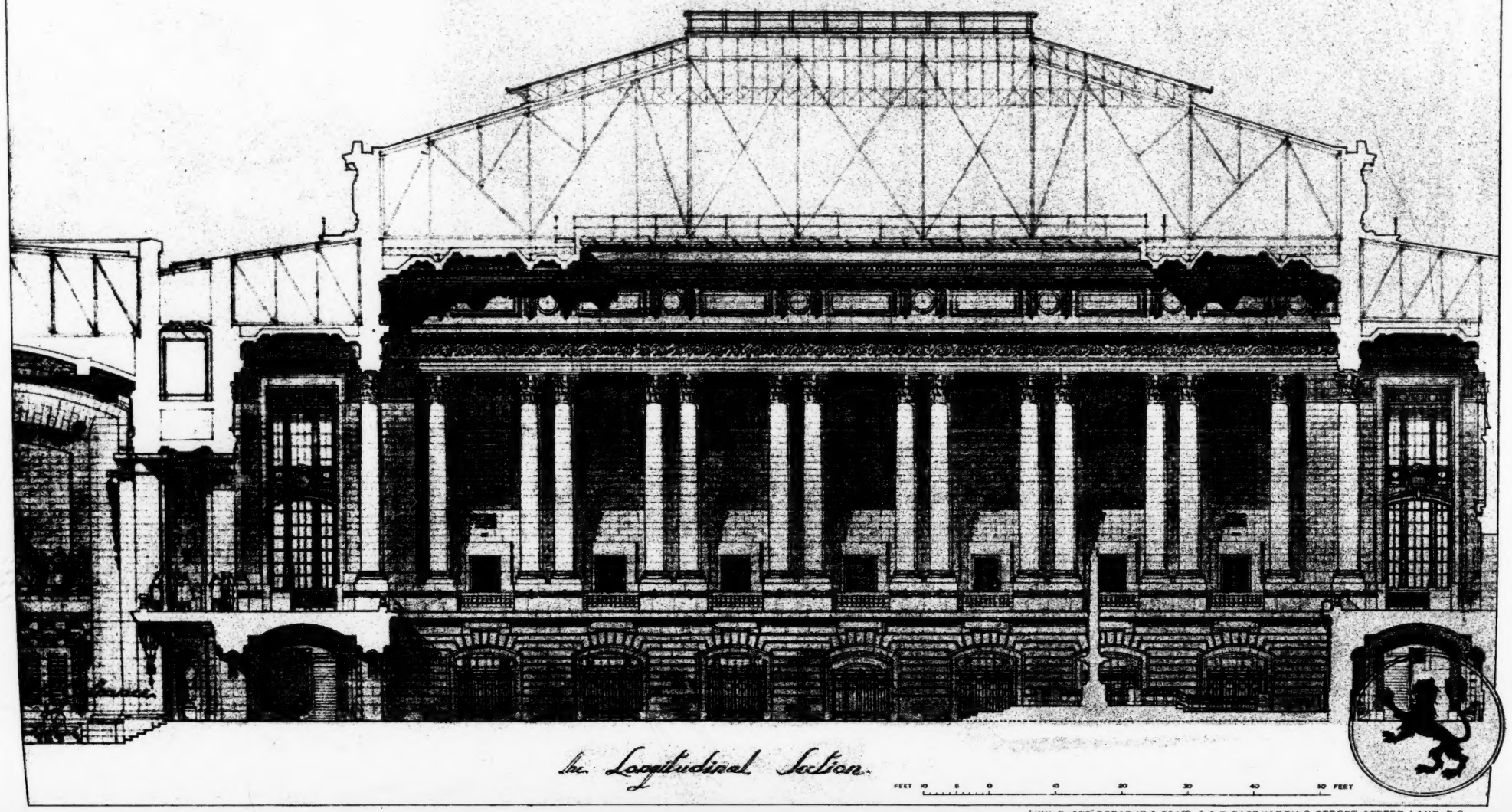
R.I.B.A. TITE PRIZE DESIGN.—By Mr. Louis de Soissons.

"INK-PHOTO" SPRAGUE & Co Lts 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

R.I.B.A. TITE PRIZE DESIGN.—By Mr. Lewis Vulliamy.

"INK PHOTO" SPRAGUE & Cº LTº 4 & 5, EASTHARDING STREET, FETTER LANE, E.C.

THE COVERED COVRTYARD OF A ROYAL EXCHANGE



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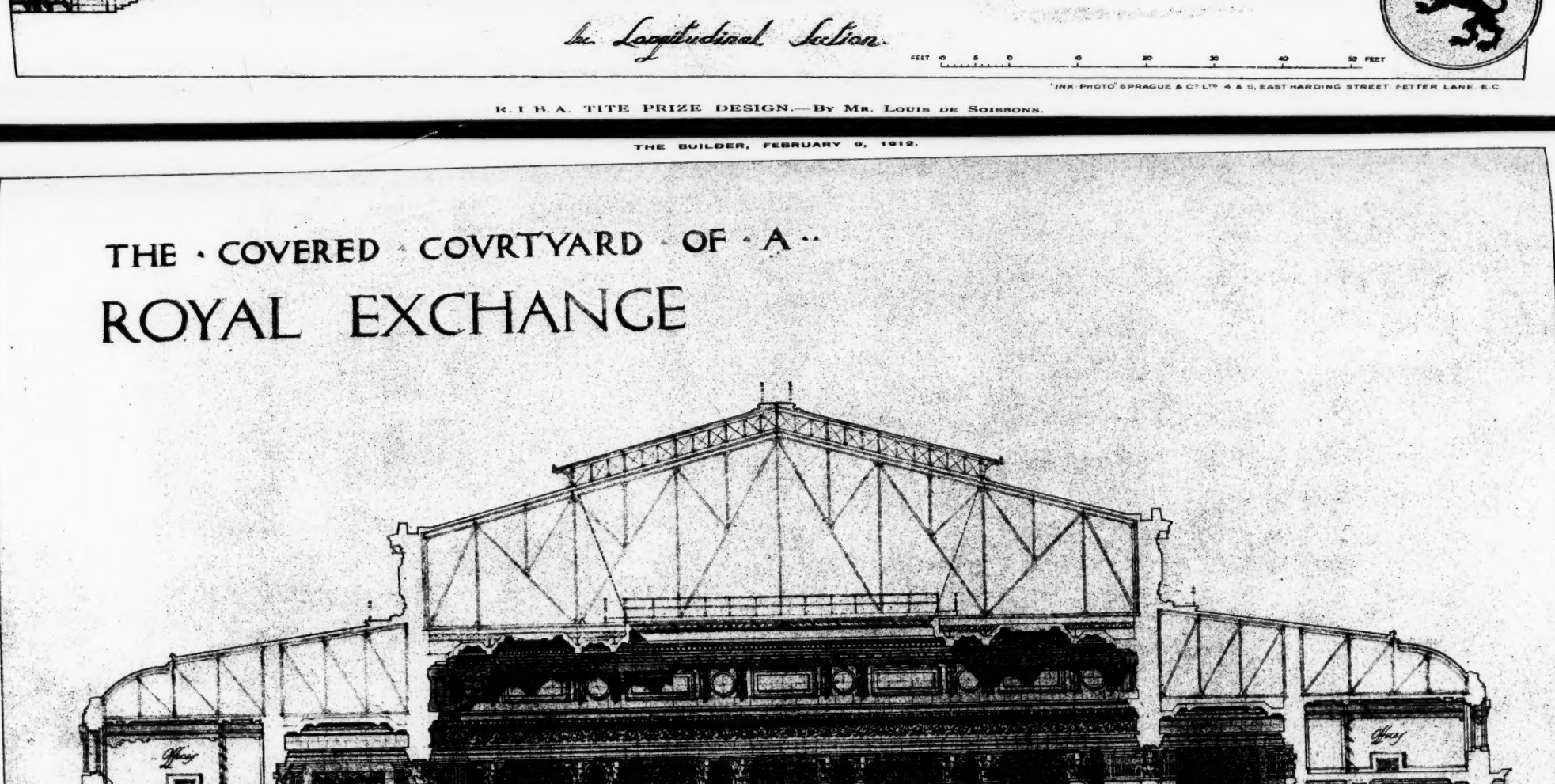
R. I. B. A. TITE PRIZE DESIGN.—By Mr. Louis de Soissons.

THE BUILDER, FEBRUARY 9, 1912.



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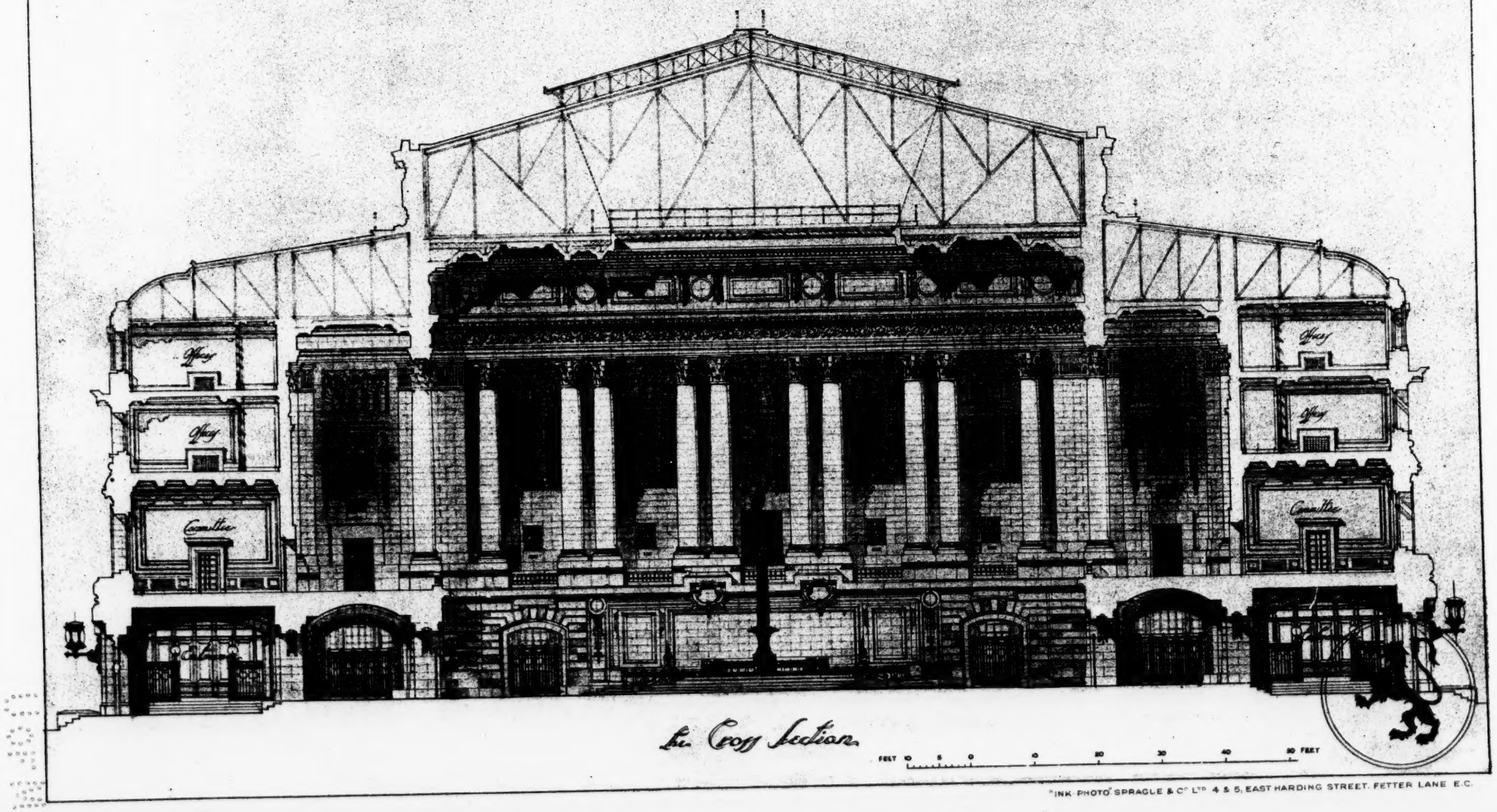
R.I.B.A. TITE PRIZE DESIGN.—By Mr. Louis de Soissons.

THE · COVERED · COVRTYARD · OF · A ··
ROYAL EXCHANGE



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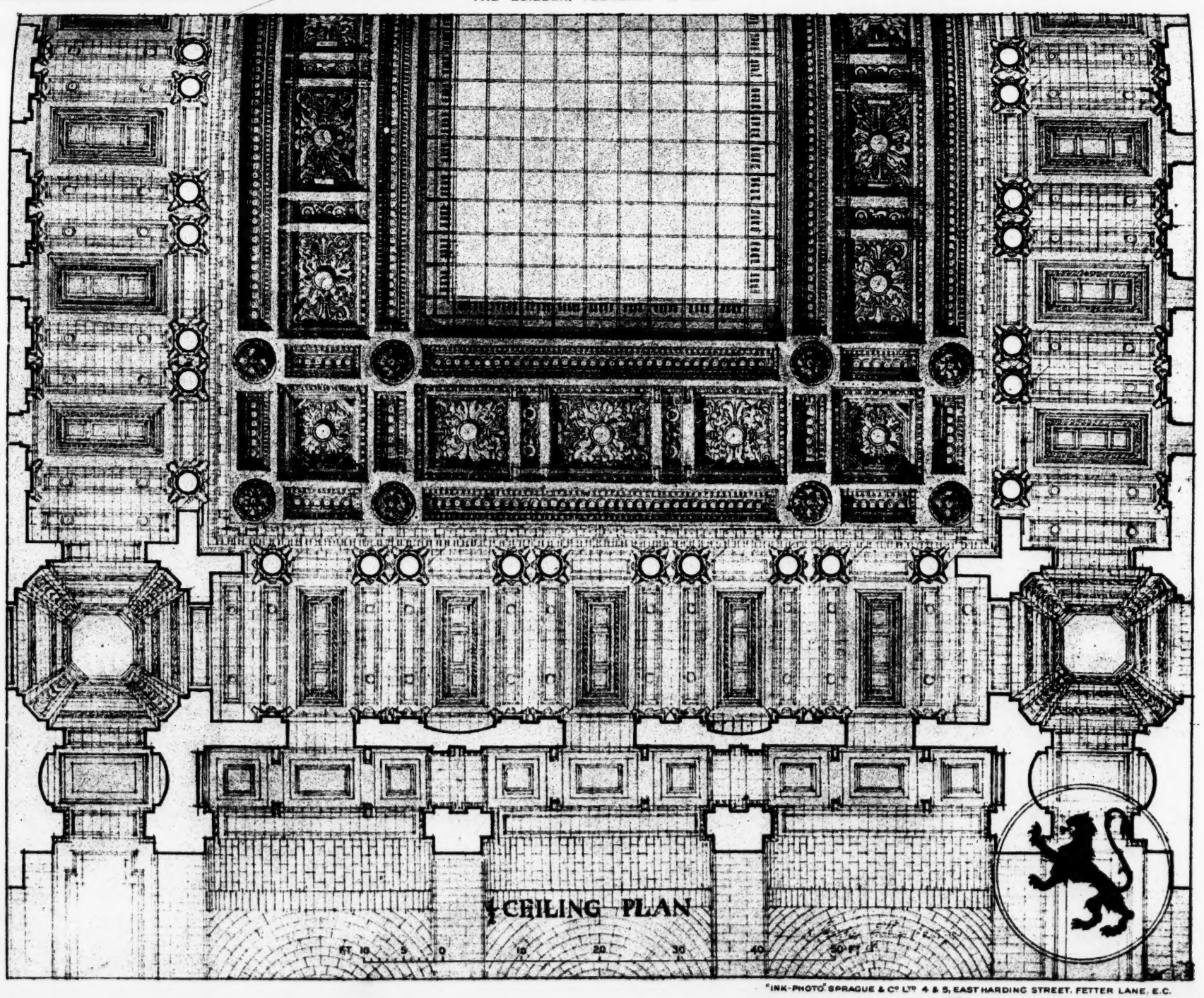

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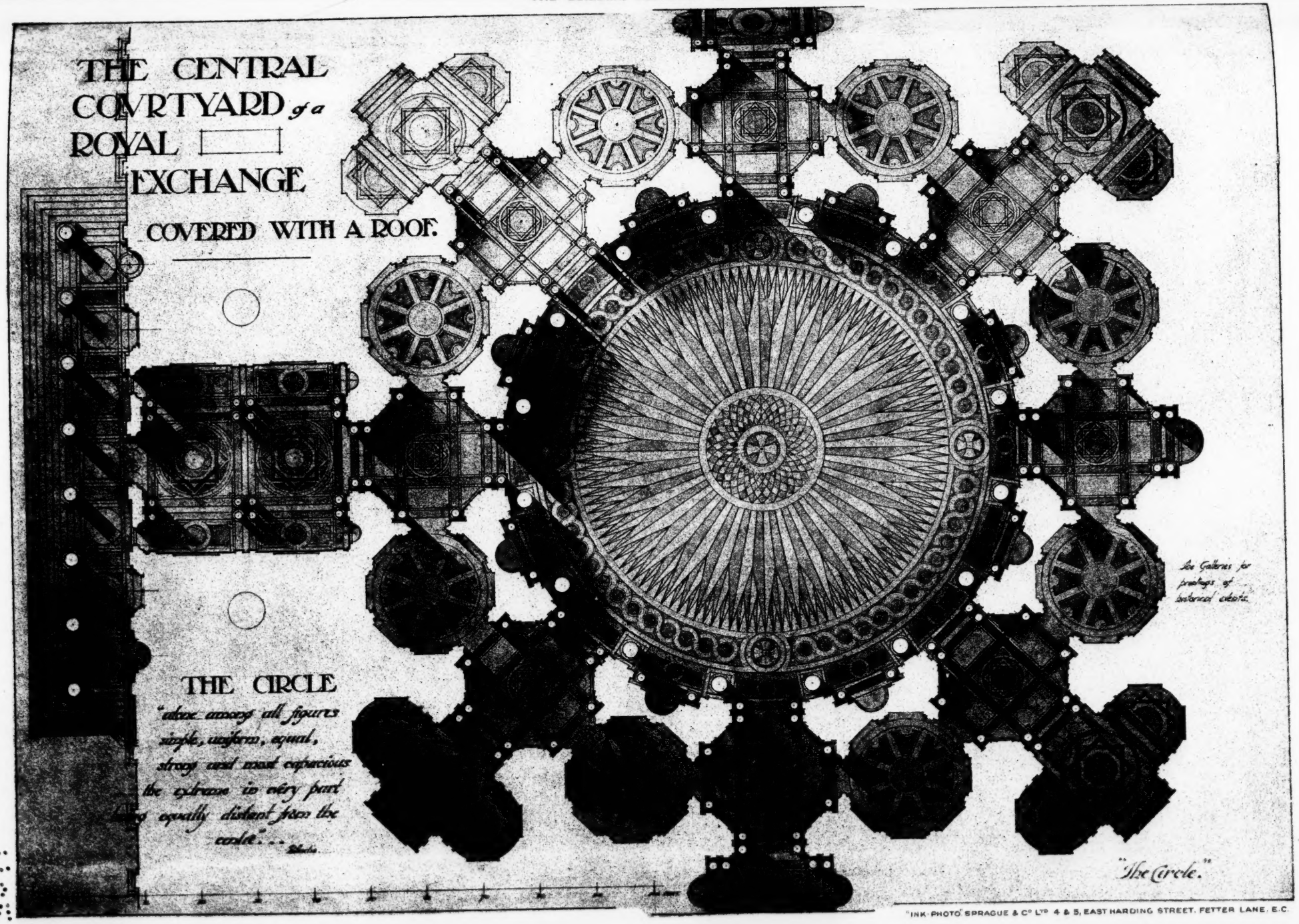
R.I.B.A. TITE PRIZE DESIGN.—By Mr. Louis de Soissons.

THE CENTRAL


THE CENTRAL COURTYARD of a ROYAL EXCHANGE COVERED WITH A ROOF.
THE CIRCLE
"Above amongst all figures simple, uniform, equal, strong and most capacious the extream in every part being equally distant from the centre"...
See Galleries for printings of historical events.
"The Circle."
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